



DOCTOR OF EDUCATION (EDD)

Gender specific methods in the Italian state primary setting

Carena, Cathryn

Award date:
2009

Awarding institution:
University of Bath

[Link to publication](#)

Alternative formats

If you require this document in an alternative format, please contact:
openaccess@bath.ac.uk

Copyright of this thesis rests with the author. Access is subject to the above licence, if given. If no licence is specified above, original content in this thesis is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC-ND 4.0) Licence (<https://creativecommons.org/licenses/by-nc-nd/4.0/>). Any third-party copyright material present remains the property of its respective owner(s) and is licensed under its existing terms.

Take down policy

If you consider content within Bath's Research Portal to be in breach of UK law, please contact: openaccess@bath.ac.uk with the details. Your claim will be investigated and, where appropriate, the item will be removed from public view as soon as possible.

GENDER SPECIFIC METHODS IN THE ITALIAN STATE PRIMARY SETTING

Cathryn Ann Carena

A thesis submitted for the degree of Doctor of Education

University of Bath

Department of Education

April 2009

DECLARATION OF AUTHENTICITY FOR DOCTORAL THESES

I hereby declare that this thesis, submitted in partial fulfillment of the requirements for the degree of Doctor of Education, contains no material previously published or written in any medium by another person, except where appropriate reference has been made.

COPYRIGHT

Attention is drawn to the fact that copyright of this thesis rests with its author. This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognize that its copyright rests with its author and that no quotation from the thesis and no information derived from it may be published without the prior written consent of the author.

This thesis may be made available for consultation within the University Library and may be photocopied or lent to other libraries for the purposes of consultation.

TABLE OF CONTENTS

TITLE PAGE	1
TABLE OF CONTENTS	2
TABLE OF FIGURES	5
ACKNOWLEDGEMENTS	6
ABSTRACT	7
CHAPTER 1: CONTEXT	8
1.1. AN OVERVIEW	8
1.2. THE CONTEXT	9
1.3. DEFINING GENDER	13
1.4. DEFINING TEACHING METHODS AND ASSESSMENT	15
1.5. SUMMARY OF THE CHAPTERS.....	16
 CHAPTER 2: THEORETICAL PERSPECTIVES	 20
2.1. GENDER SPECIFIC LEARNING NEEDS: A REVIEW OF THE LITERATURE	20
2.1.1. Recent Research on Boys’ Achievement	20
2.1.2. Importance of Ensuring Boys’ Success	25
2.1.3. The Way Boys and Girls Learn	29
2.1.4. Neuroscience and Teaching Methods	36
2.2. POSSIBLE CAUSES FOR BOYS’ UNDERACHIEVEMENT.....	42
2.2.1. Feminization of Academics	42
2.2.2. Class	44
2.2.3. Motivation	45
2.2.4. Curriculum	46
2.2.5. Assessment	47
2.2.6. Classroom and School Management	48
2.2.7. Genetic factors and Learning Preferences	50
2.3. CRITERIA FOR IMPROVING BOYS CHANCES IN THE CLASSROOM: GENDER SPECIFIC METHODS	51
2.4. TEACHER-CENTERED VS. STUDENT- CENTERED METHODS	55

CHAPTER 3: RESEARCH DESIGN	59
3.1. METHODOLOGY	60
3.1.1. Defining Thick Description	61
3.1.2. The Case Study	65
3.1.3. The Use of Thick Description to Verify Congruity between the In Use and the Espoused	66
3.2. THE SPECIFIC DESIGN OF THIS STUDY	67
3.2.1. Materials and Methods	69
3.2.2. The School, Its Background and Access	69
3.2.3. Participants	70
3.2.4. Procedure	71
3.2.5. Drawbacks of the Study	74
 CHAPTER 4: HISTORICAL AND CULTURAL CONTEXT	 77
4.1. BRITISH EDUCATION	78
4.2. AMERICAN EDUCATION	81
4.3. ITALIAN EDUCATION	83
4.3.1. Post-World War II Italy	84
4.3.2. Post-World War II Italian Education	85
4.3.3. Present-Day Italian Classroom and Curriculum Organization	89
4.3.4. Espoused Theories vs. the In Use	93
 CHAPTER 5: SITE-SPECIFIC FINDINGS	 99
5.1. A Description of the Site	99
5.1.1. Classrooms	99
5.1.2. Lessons	100
5.1.3. Snack and Lunch Intervals	100
5.1.4. Length and Schedule of the School Day	101
5.1.5. Organization of Students	103
5.2. MEASUREMENT OF METHODS AGAINST THE CRITERIA	103
5.2.1. The Espoused with Regards to Gender Specific Methods	103
5.2.2. The In Use with Regards to Gender Specific Methods	104
5.2.3. Specific Classroom Activities	105
5.3. ANALYSIS OF DATA CHARTS	132
5.4. ADDITIONAL FINDINGS	137
5.4.1. Educational Expectations	137
5.4.2. Memorization, Modeling and	

Mimicking	138
5.4.3. Self-esteem	139
5.4.4. Boys Need More Encouragement in Literacy/ Girls Need it in Math and Science	140
5.4.5. Same Teacher for 5 Years	141
5.4.6. Espoused vs. In Use/ Teacher Centered vs. Student Centered	143
5.4.7. Socialistic Values	144
5.4.8. Teacher-Centered Methods	144
CHAPTER 6: CONCLUSIONS	146
REFERENCES	154
APPENDIX A: The Questionnaire	159
APPENDIX B: The Data Form	161
APPENDIX C: The Moratti Reforms	162
APPENDIX D: Sample of a boy's newspaper exercise	163
APPENDIX E: Sample of a girl's math exercise	165
APPENDIX F: Sample of a boy's newspaper exercise	168
APPENDIX G: Sample of a girl's math exercise	170
APPENDIX H: Sample of a boy's math exercise	172
APPENDIX I: Sample of a girl's newspaper exercise	175

TABLE OF FIGURES

FIGURE	DESCRIPTION	PAGE
1	OECD Comparison	11
2	Education Comparison	88
3	Pre-Moratti Reforms	89
4	Weekly Schedule	102
5	Subject Percentages	103
6	Grammar Lesson	112
7	Newspaper Lesson	115
8	Student Work: Newspaper	116
9	Essay Lesson	124
10	Math Lesson	126
11	Student Work: Math	127-128
12	Gender Specific Methods Analysis	132
13	Statistical Analysis of Grades	135

With many thanks to Gill Brooke-Taylor
for her efficient, long-distance support,
to Dr. Muschamp for her patience to teach me
how, to my husband and children who had
to live through the whole process. And with
special thanks to my Italian friends
Edda Corbo and Luis Tosco who were
interested in my project, who want to
make a difference in Italian education
and who care so much about the
children they teach.

ABSTRACT

This paper explores gender differences in learning and presents findings from a qualitative study into the effectiveness of teaching methods as regards boys' learning. The applied part of the paper uses site-specific data collected from a state primary school in northern Italy which suggests that the methods employed by teachers is teacher-centered rather than student-centered. The data collected through observation, interview and questionnaire was measured against criteria formulated from experts in the field of boys' education and analyzed through both an historical and cultural lens. The historical and social factors reveal noteworthy parallels between the approach to pedagogy and Italian culture. The results of the analysis indicate that the Italian methods observed were at times effective while also deficient. This same approach which continues in the middle and high schools is less effective as the other factors in the school arrangement change. The paper concludes with reasons for modifying the teaching method from strictly content, teacher-centered to one which also taps into additional intelligences and takes a more student-centered approach in order to raise motivation and effectiveness of learning which will in turn raise international performance levels and give the Italian student a competitive edge in the international academic arena.

CHAPTER ONE: CONTEXT

1.1 AN OVERVIEW

The purpose of this study was to explore how teaching methods cater to gender specific learning needs. As an American living and teaching in Italian and international schools for the past fifteen years, this researcher wanted to explore a state primary school. Having observed both a son and a daughter in the state primary system, it was evident that the two children had disparate experiences which seemed to be based on learning differences related to gender more than any other factor. The site chosen was done so specifically because of the researcher's connections with the community. Due to limited access to government schools, it was paramount to have some connection with the prospective research site. Both the principal and the board of directors (comprised of teachers and parents) had to give a positive vote for a research project to be allowed in the state institution. In fact, in the previous year, a project requested by an Italian doctoral student in the same school was denied.

The context of the study, an Italian state primary school, limited the scope of the research to the question: to what extent do the teachers of one Italian state primary school cater to the learning needs of the boys through pedagogy. The three parts of this investigation (the literature and historical analysis, the qualitative empirical study and the statistical analysis) have led the researcher to draw conclusions some of which need further exploration. Firstly, the teacher-centered, content-based approach employed in the school observed is both useful to boys in the short-term yet appears detrimental to their achievement later in their schooling and in the international arena. Secondly, boys begin strong in primary education but underachieve in comparison to girls by high school graduation. Thirdly, the Italian system of education seems to parallel that of the United States and the United Kingdom in the 1970s with regards to gender equality. What began as simply a look at the

Italian state school pedagogy in primary education as it affected the learning of boys resulted in yet a fourth conclusion: the methods are “teacher” friendly rather than “boy” or “girl” friendly. The reasons behind this approach to teaching and learning have both historical and ideological groundings which will be explored throughout the paper.

1.2 THE CONTEXT

Today, no one can dispute the difference in male and female when it comes to anatomy, maturity levels, development, yet schools still teach both genders the same way, the same material with the same techniques. According to Halsey et. al. (1997) in the past century much has been explored about the lack of sensitivity to the feminine student with regard to curriculum and instruction:

Feminist criticisms of liberal education challenge the assumption that the male-dominated liberal canon of ‘great’ philosophy and literature constitutes an appropriate curriculum for senior secondary and university students. They argue that rather than initiate students into the forms of knowledge and modes of rationality of Western civilization, a liberal education is an exercise in patriarchal power.

(Halsey et al 1997, 16)

More recently, however, boys’ underachievement has been the focal point of gender related studies and will be the focus of this study.

One way of comparing boys and girls achievement is through the Programme for International Student Assessment (PISA), an organization which began in the mid-1990s to survey schools. Currently more than 60 countries participate in the surveys which began in 2000 and have continued on a three-yearly basis. The international education survey attempts to measure the knowledge and skills of 15-year-olds in the areas of reading, mathematics and science literacy. Schools in each country are randomly selected and the test is administered to students who are between the age of 15 years 3 months and 16

years 2 months. The goal of the survey is to test how well students can apply the knowledge and skills they have learned at school to real-life challenges but not how well a student has mastered a school's specific curriculum. The assessments are made up of multiple-choice and open-ended questions organized around texts which may or may not contain pictures, graphs or tables related to real-life situations.

According to the PISA survey of 2003, both Italian girls and boys scored below the average mean of participating countries (the countries registered in the Organisation for Economic Co-operation and Development-OECD). In the reading survey both scored below the average but boys scored even lower than girls. The OECD average mean was 477.23 for boys and 511.36 for girls with the Italian boys scoring a 455.24 and the girls outscoring them with a 494.59. From the OECD average figures it is clear that it is not uncommon for boys to score below girls in the area of reading. In the change and relationships survey of the same year, again both girls and boys scored below the average mean of the participating countries but boys fared better than the girls as was the norm even in the average scores but the norm was only for girls to score 6 points below boys not 13 points below. The OECD average mean was 503 for boys and 497.62 for girls while the Italian boys scored a 481.41 and the girls only a 468. In the mathematics survey the OECD average mean for boys was 505.53 and for girls 494.41 with the Italian boys scoring 474.92 and the girls 457.09. Again the Italian boys outperformed the Italian girls in a margin greater than the OECD norm.

	OECD AVERAGE BOYS	ITALIAN BOYS	OECD AVERAGE GIRLS	ITALIAN GIRLS
READING	477.23	455.24	511.36	494.59
CHANGE AND RELATION- SHIPS	503	481.41	497.62	468
MATHEMATI CS	505.53	474.92	494.41	457.09

Figure 1

As can be seen by the chart above, in every case Italian children scored below the OECD average. Girls fared better than boys only in the reading. These factors lead one to believe that firstly the Italian curriculum and teaching methods are less adequate in preparing students for life skills than the average OECD country and secondly that boys favor math and science while girls have a preference for reading. The latter factor is further supported by the fact that boys scored 22 points lower than the average in change and relationships while girls scored 29 points below the average. The same is true in mathematics: boys scored 31 points below average while girls scored 37 points below. The question of how well Italian schools prepare students for life is beyond the scope of this project although the results from the PISA study indicate that Italy is falling behind other OECD countries.

Italy herself is noticing a discrepancy in scores between girls and boys and in their courses of study. One Italian article written by Ricci (2008) reports that boys and girls both have the same mathematical abilities yet women are under-represented in science, engineering and math fields. She quotes a study published in *Science* claiming that in seven states analyzed in the United States there was no significant difference between the grades of boys and girls in maths and sciences. In the past years, fewer girls went into those fields but today that is not the case. She also quotes the PISA studies presented above looking closer at the reasons why some countries show a significant difference in the scores between genders. The gender gap index shows that countries

like Ireland and Sweden have high similarities between male and female results whereas countries such as Turkey and Italy of a low index of equality have a greater disparity in the results. She says, “Non è una questione di ricchezza: lo stesso accade nei paesi in via di sviluppo a seconda che le donne siano più o meno emancipate.” In other words, a significant difference exists where the women are less liberated. Her last comment of the article relates to the fact that although girls graduate with slightly higher results in high school, women are still under-represented at high levels in Italian society.

The same kind of results came out of another article written about women in medicine: “Le donne iscritte a medicina sono più numerose degli uomini, si laureano prima e con voti più alti” - more women are enrolled in medicine than men and they graduate before men with higher grades. This article criticizes Italian society for being sexist in the opinion that women are less likely to be doctors which she says is not true. Women she claims make up 50% of all doctors with some fields more exclusive to men like cardiology, neurology, and orthopedics. This difference she says is only due to the hours which are made for men not for women because female doctors are often still mothers (Capelli 2007).

Yet another article entitled “Matematica e inglese, boom debiti” related to the marks received on the high school exams of 2008 points to the same statistics. The article firstly claims a didactic emergency in math which can certainly be understood even by the PISA results of 2003 but this article quotes the results from Italian high school exams which leave 47.7% of students needing to make up a math course before re-entering school in September. This was claimed an issue throughout Italy without regard to gender or geography. However, the article also said that girls fared better than boys with 98% graduating as opposed to 96.7% of the boys graduating: “Un dato rimane costante e resistente ad ogni cambiamento: le donne si confermano sempre più studiose degli uomini, un fatto che costituisce ormai una realtà della

scuola italiana”- a factor which remains constant and resistant to change is that the girls are more studious than boys and that is a fact of Italian schools. However, these statistics are both consistent with and in contrast to what was found at the primary level in this study. The study reveals that boys despite poorer behavior in the classroom, achieve as well as or better than girls in grade 5. This has not been the case in other countries.

West (2002) reviewed literature and research by US and British sources claiming that girls were shown preference over boys by both women and men teachers. He quotes one report which indicated that teachers believe girls to be better behaved and to have a more positive, cooperative attitude. In addition, boys were outperformed by girls in most subjects (101). West sees a correlation between the two: “Notice that two things go closely together- teachers prefer girls to boys, and girls on average are performing better than boys” (102). This was not the case, however, in the 5th grade class observed. Boys achieved lower marks than girls for behavior but their subject marks did not appear to suffer nor did teachers indicate during interviews a preference for girls. If anything, a preference for boys was alluded to and exemplified in the reports.

1.3 DEFINING GENDER

What is explored in this study is the relationship between gender and teaching methods. The work of Davies as quoted by Francis (2000) indicates that “gender is seen and felt to be integral to a successful social identity” (15). The construction of gender is a controversial issue which goes back to the nature vs. nurture argument. For many years the work of Money (1972) and Ehrhard was seen as proof that gender was socially constructed. When the circumcision procedure of one of two male twins went drastically wrong, Dr. Money, founder of the world’s first Gender Identity Clinic at John Hopkins, advocated that castration, construction of external female genitalia, hormones

and treating Brian like a girl would make him into “Brenda.” The therapy was reportedly a success until “Brenda” feeling extremely uncomfortable as a girl was finally told the truth about her childhood. She decided to undergo the operation to become a man. In 1981 “Brenda” became David and in 1990 he married a single mother with three children (Francis, Babette 2000).

Despite the strong role that biology plays one cannot deny the role that socialization plays in gender identity. Abbott (2001) says that the case of Money and Ehrhard “seems to provide strong evidence for the role of biology in the development of gender identity” (82) but he goes on to say “comparing the gender role behaviors of people from different cultures is a further way of determining the extent to which gender identity is the result of socialization or biology (nature or nurture). Many studies have been carried out and findings seem to indicate (as is often the case) that both play a role in the development of gender identity” (82).

In fact, rather than take a strictly nature or a strictly nurture stance, this paper will be aligned with Halpern who prefers a psychobiosocial perspective. Halpern attempts to “capture the complexity of gender differences in cognitive abilities. According to this model, cause and effect is circular in determining gender differences. For example, some determining variables are both social and biological . . . she reiterates that there is considerable overlap between the cognitive abilities of men and women” (Du Plessis 2007, 66). Halpern herself asks, “How might biological differences between the sexes be contributing to societal expectations and how might societal expectations be creating or increasing cognitive sex differences” (Halpern 2000, 231). She admits to the social factors by saying, “There can be little doubt that environmental and social factors play a major role in the cognitive development of every member in our society” (233).

Then she goes on to quote a study which points to the biological in gender construction:

Astin et al (1995) found that female students [in US universities] spend much less time exercising, partying, and watching television and much more time on housework, child care, reading for pleasure and doing volunteer work than male students . . . only 7% of the female students compared with 37% of the male students, spent more than 1 hour per week playing video games. Despite all of the efforts of those associated with the women's movement, de facto sex-related life differences are alive and well"

(Halpern 2000, 234).

It is for these reasons that the author of this paper aligns herself with the psychobiosocial paradigm which will guide the study.

By "gender" this study will mean the masculine and feminine (boys and girls) differences in behavior according to sex. According to Francis (2000) these social constructions although they can be slightly different from individual to individual usually in Western society have some attributes particular to each gender. Francis lists masculinity as having the following attributes: rationality strength, aggression, competition, mind, science, activity, independence and femininity as having the attributes of emotion, frailty, care, co-operation, body, nature/arts, passivity, dependence (15). With these differences in gender attributes it is no wonder that the same methods might fail one or the other of the genders if it does not incorporate the learning styles and preferences of both.

1.4 DEFINING TEACHING METHODS AND ASSESSMENT

When talking about teaching methods this study will refer to the ways in which teachers impart knowledge to their students, the ways in which they promote learning in the classroom be it effective or otherwise. Assessment, on the other hand, will be the ways in which teachers measure the learning. According to the work of Hirumi (2002), social psychologists vary in their

approaches to how the mind acquires knowledge from the objectivist epistemology which indicates that reality is external to the learner to the interpretists who believe that knowledge is constructed. An alternative to these two epistemologies is pragmatism which believes that reality is constructed within a social context but mediated by the learner's prior knowledge. The Italian primary school exemplifies the objectivist belief that knowledge is external to the learner. This belief is manifested in the teaching methods and assessment which is teacher-centered rather than student-centered. This idea will be further explored in Chapter Two of the paper.

1.5 SUMMARY OF THE CHAPTERS

The psychobiosocial constructions in gender as described above make it obvious that the same methods and assessment for both the masculine (boys) and the feminine (girls) may leave one or the other in a position of ineffective learning. The facts necessary to look at this issue are numerous including the literature around gender and learning, the historical context of education, the efficacy of the research utilized to gather data for project, the site specific data gathered and the analysis of that data.

Using a review of the relevant literature, exploring the historical and cultural perspectives and using the tools of qualitative research, the question of this study (to what extent the teachers of one state primary school in northern Italy cater to the learning needs of its male students through its methods) will be investigated. Chapter One has already begun by defining the terminology and exploring the current status of boys in Italian education. Boys begin strong in primary school with teachers perhaps not catering to their learning needs but at least overlooking their restless "misbehavior" and thus not lowering grades. Whether or not the methods in primary school are the cause of a later decline in achievement is beyond the scope of this study. Another related question to be considered would be whether or not the methods decrease self-esteem in

boys (and girls). Although grades are not decreased perhaps self-esteem around learning is lowered causing a later decline in achievement. However, a more likely scenario is that the methods of primary school are not particularly “learner friendly” but some factors counteract the methods such as the excessive modeling and having the same teacher for all five years of primary education. These two factors both change as children move into the middle and high schools which may account for the lowering of achievement levels. When boys were with a teacher who knew them (almost like a mother) and who turned a blind eye at less than perfect behavior perhaps boys tried harder. When teachers change throughout a single day, when expectations differ from teacher to teacher, when the teaching is not boy friendly but largely rote memorization, it is not difficult to understand why boys are underachieving after primary school: perhaps for no other reason than discouragement and boredom.

Chapter Two will review the literature around the topic of gender specific learning needs. The reasons why boys should achieve are explored as well as how to help them achieve. Men populate more than 90% of prisons (West 2002). But this does not have to be the scenario. Using right-brain and left-brain methods and engaging the seven intelligences, boys do not have to lag behind. They can be stimulated to learn and grow along side girls which in turn will benefit boys, girls and society.

Chapter Three will describe the qualitative research, its methods and findings. The work of Wallace and Poulson (2003) validates the usefulness of anthropological methods such as thick description and its derivative the case study. This chapter will justify and present the research tools used to identify the teaching methods in one Italian state primary school. Thick description (Geertz 1993) was particularly useful in comparing the espoused theories of the teachers and what was actually in use. It was also valuable as a means of understanding the results of the questionnaires as well as building the

knowledge base of the researcher. Observations clarified and expanded upon the surveys and data charts compiled.

Chapter Four presents the historical findings of education in the United States, Great Britain and Italy. Putting education in the context of societal values and fads helps one to understand more about why a people or a culture educate its youth in a particular manner. This was found to be true in all three countries and similarities and differences were noted which shed light onto the Italian system of education. The chapter begins as far back as Shakespeare and moves throughout history highlighting the major occurrences in the educational arena. In fact, as the three histories are compared it is interesting to note that Italian society seems to be in the 1970s in relation to equality of opportunity irrespective of gender as it occurred in the United States and the United Kingdom. This idea is further explored once the findings of Chapter Five are disclosed.

In Chapter Five further findings of the study will be presented which include what kind of methods were used in the Italian primary classes observed and how those methods were or were not boy friendly. The Italian methods observed were in many ways traditional chalkboard and rote memory but in other ways they were “boy” friendly and aided in the effective acquisition of knowledge or at least in “good” grades (effective acquisition of knowledge may be another issue altogether). Chapter Five sets out to present the findings as they were measured against the criteria identified and defined in Chapter Two.

Finally, in Chapter Six the significance of the findings will be explored and what issues might be considered in future studies. The study set out to demonstrate if and how the Italian state primary classroom caters to the learning needs of boys. It is in this chapter that the methods as measured against the criteria are considered in light of the unexpected findings related to

the context and behavior of both teachers and pupils due to cultural issues and factors which could not have been known before the study and which would not have been known if thick description/observations had not been conducted.

CHAPTER TWO: THEORETICAL PERSPECTIVES

2.1. GENDER SPECIFIC LEARNING NEEDS: A REVIEW OF THE LITERATURE

The concern regarding the achievement of boys is an international one which has been reported in countries including Australia, Denmark, France, Germany, New Zealand, the United Kingdom and the United States (Noble and Bradford 2000) (Weaver-Hightower 2003) (West 2002). Although the reasons for the educational gap between the achievement of girls and boys may vary from country to country, some common themes exist in the learning needs specific to boys. Chapter Two will begin by reviewing the recent research on boys and achievement which will be followed by an explanation of why underachievement is an issue for everyone not only for boys. A survey of the research on the way boys and girls learn and its implications for teaching will lead into a list of criteria which has been drawn from the reading and guided the research and the presentation of its findings. Thus, the question addressed in this chapter is “To what extent are learning needs gender specific?”

2.1.1. RECENT RESEARCH ON BOYS’ ACHIEVEMENT

According to Skelton (2001), from the late 1990s until now the focus has been on boys’ underachievement in general which was born from school improvement movements and marketization (18). Noble and Bradford (2000) take a look at some statistical proof to show that “boys are achieving less than girls in most subjects, but particularly so in English and other subjects which demand higher level language and organizational skills” (3). Specifically, they analyze the figures in Britain. One table shows figures for the percentage of students who obtain five or more A-C grades at age 16 on the GCSE. From 1991 to 1998 the percentage gender gap increased by 2.6; in 1991 the gap was

7.6 while the steady increase to 1998 found the gap at 10.2. The authors say that the gap is not limited to GCSEs but continue on to A levels:

It is not only at GCSE that the divide is noticeable. The gap continues to A level. As society has given more opportunities to girls they have reversed the previous domination of A levels by the boys. In 1983-84 11.1 per cent of 18-year-old boys obtained three or more A levels compared to 9.5 per cent of girls. By 1994-95 the position had reversed: 20.5 per cent of boys gained three A levels compared to 24.2 per cent of girls. This trend of increasing performance by both genders, but with girls drawing away from the boys, seems to be repeated at all ages.

What is most noticeable in the figures is the huge discrepancy between boys' and girls' performance in English. This is first apparent at the age of 7 in Key Stage 1 SATs and gently accelerates through the later key stages, as Tables 2.2-2.4 demonstrates.

(Noble and Bradford 2000, 11-12)

According to the work of Wilson (2006), girls are already ahead in every area including physical development by the time they enter primary school. Wilson uses the statistics from the Foundation Stage Profile in the United Kingdom which is an assessment completed by any government-funded setting which is a foundation setting. The profile is based on the teachers' observations and assessments in six areas of learning which are defined in the curriculum guidance for the foundation stage. The developments of each child are measured against stepping stones and early learning goals. These summary profiles are completed for each child before the end of the foundation stage year. The tables that Wilson use show that by Year 2 boys are being outperformed by girls in every assessed subject and continue that trend. In Key Stage 1 (KS1) Writing, from 2000 to 2005 boys ranked between the 75th to the 80th percentile but never exceed the 80th percentile while girls never go below the 87th percentile. Some years this meant a gap of over 10%. The gap in reading for KS1 was slightly lower never exceeding 6%. The gap in English for KS2 remains largely the same at 10% over the 5 year period. By KS3 the gap in English has diminished only slightly to 8%. Although girls outperformed boys in English, boys closed the gap in Math and Science. In

KS1 Math girls held not more than 5% lead but by KS2 boys outperformed girls holding a 1% lead. By KS3 they fall behind only by 1%. The same trend is true for Science: KS1 girls have a lead while in KS2 boys catch up in some years and even lead; however, in KS3 the gap remains insignificant.

According to an assessment profile of girls or boys who were working at or beyond their daily learning goals, girls outscored boys significantly (10% or above) in all areas except numbers as labels and for counting, calculating, knowledge and understanding of the world; shape, space and measure. The other categories were disposition and attitudes, social development, emotional development, language for communication and thinking, linking sounds and letters, reading, writing, physical development, and creative development.

Wilson summarizes the findings by saying:

Such a gap in language-based subjects is understandable, bearing in mind the differences shown in reading, writing and English in Key Stages 1, 2 and 3. Modern languages has even bigger burden it might be argued: trying to persuade many boys that they should learn French---“Why should I do that then? I’m not gonna live in France, and I can’t stand Arsenal!” Add to this the fact that there is a strong tendency to swiftly set students in high schools in this subject, meaning that often three-quarters of the top set are girls and three-quarters of the bottom set are boys. The size of the gender gap in subjects such as design technology is clearly, at least in part, because of the literacy content, as we shall explore later. By the time students get to A level, while girls in the 1970s were being outperformed by boys, the situation is now reversed. In recent years, around 58 per cent of entries to university were girls and there are now more young women in management training colleges.

The only two statistics that show boys to be in the lead concern permanent exclusion, currently above 80 per cent, and membership of the prison population (under 25s), which stands at around 90 per cent. There are also more suicides among young men today.

(Wilson 2006, 11)

West (2002) is in agreement with Wilson quoting a 1996 article from the *Economist* which claimed that boys fall behind girls “in every country in the

developed world except Japan” (West 2002, 5). According to the *Economist* it was the working class boys who suffered the most problems:

In working-class areas of London, only 14.9 per cent of boys achieved A, B, or C in five subjects, compared with 30.2 percent of girls. The *Economist* pointed out that because the job market was shifting, boys’ difficulties were increasing. And there were more and more men of working age outside work. The fastest growing jobs were all female dominated. But the five sectors declining fastest were male dominated.

(West 2002, 5)

West continues to quote another report called *The Gender Divide* which was published in 1996 in the UK by the Office for Standards in Education. This report gave further evidence of the underachievement of boys: “girls outperformed boys at ages 7, 11, and 14 in national curriculum assessments in English” (6) although the report claimed that in math and science achievement levels were similar. However, girls were more successful in GCSE exams on every level which the report claimed was due to diligence, good behaviour and enthusiasm for learning. The report went so far as to ask whether the education system actually favoured girls for those very reasons and asked if perhaps boys were not being discriminated against because of the numbers of suspensions and exclusions among boys (West 2002, 7).

Weaver-Hightower (2003) looks at the practice-oriented literature which he defines as therapeutic approaches or school- and classroom-based interventions. The latter of which he says is divided into two overlapping categories of learning and outcomes, and social and psychological consequences. The issue of boys’ underachievement is explored in relation to statistical evidence:

As Gillborn and Youdell (2000) argue, competition between schools, brought about by the National Curriculum in England and the publication of the league tables, has created a situation of ‘educational triage’ in which pedagogical attention shifts to those who (might) bring examination scores down and make the entire school look bad.

Attention has therefore shifted to boys, who in general get fewer General Certificate of Secondary Education (GCSE) passes, particularly in English. Researchers in Australia and the USA have expressed similar concerns. Sommers (2000), from the USA, argues that boys are underperforming girls on the National Assessment of Educational Progress (NAEP) and therefore deserve attention. In Australia, too, examination scores show boys doing less well than girls.

(Weaver-Hightower 2003, 413)

In fact, the most significant findings by PISA in relation to gender differences in OECD countries were found in the area of Reading. The internationally standardised assessment (for Math, Reading and Science) administered to 15-year-olds found that for both Science and Math girls and boys scored similarly. In some areas girls outperformed boys while in other areas boys outperformed girls although the difference was not significant. In the area of Math, boys outperformed girls again not significantly (less than 11 points on average). However, Reading showed the largest gender gap with all OECD countries revealing a gap where girls outperformed boys and in 12 countries the gap was at least 50 score points. The study also revealed that girls attended higher performing, academic schools and participated in more academically challenging courses than did their boy counterparts.

Evidence from the United States in 2004 reveals similar data. The National Center for Education of the U.S. Department of Education shows a slight gap in achievement for girls and boys in Math. The trends in average math scores for 9-year-olds, 13-year-olds and 17-year-olds fluctuated between 2 and 3 points with boys outperforming girls. However, the trend in the average reading scores was much more dramatic. 9-year-old boys showed a -5 point gap, while 13-year-olds showed a -10 point gap with a culminating gap of -14 points for 17 year olds.

Based on the statistics quoted, boys are indeed falling behind in their achievement levels especially in the area of language communication be it

reading, writing or listening. Should this be important to parents, teachers, schools or communities?

2.1.2. IMPORTANCE OF ENSURING BOYS' SUCCESS

If any set of persons were underachieving in an educational system, the job of the educator would be to understand the situation (and hopefully) remedy it because by definition being an educator demands it but also because an issue in the classroom does not remain in the classroom for long. This is particularly true in the case of boys. However, if we begin with the reasons in the classroom we can see that for the sake of boys themselves but also for the sake of girls, the success of boys in the classroom is paramount (Noble and Bradford 2000) (Francis 2000) (Skelton 2001) (West 2002).

According to a study conducted by Francis (2000), boys “tend to monopolize space in the classroom and playground,” they tend to draw more attention to themselves, they “dominate the classroom vocally too” (31). These findings were reported by Francis from studies in the 1980s and 1990s but her own work resulted in similar findings:

... in all three schools in which I conducted observation, boys moved around in the classroom and were more physically active than girls. They frequently kicked balls around, walked or ran around the classroom, pushed, slapped or hit each other, and threw things across the class. Girls sometimes walked about in class, but less frequently than did boys, and they rarely engaged in any of the other physical activities listed above in class. Moreover, in eight of the twelve classes I observed boys were substantially noisier than girls, both in terms of general noise among pupils and in terms of contributions during whole-class teaching.

(Francis 2000, 31)

Boys must be on track with education for their own sake but also so that the experience of girls can be maximized. However, there are also reasons which go beyond the classroom.

The extended reasons beyond failure in the classroom are social. According to West (2002), the social evidence in Australia is a clear indicator that educators and parents must take notice. Boys are in crisis according to West which affects families and, on a larger social level, communities: juvenile crime rates are higher for boys than for girls, crimes against property are 93% male, violent crime is 80% male dominated, victims of violent crime are usually boys except sexual assault and kidnapping, and inmates in Australian jails are 90% men (West 2002, 3).

West himself gives four reasons why people should care that boys are not successful at school. Firstly, because if the same were happening to girls it would be an issue (it was an issue and was addressed-see the historical analysis in Chapter Four); secondly, because the phenomena is particularly related to a class. Thirdly, because of the increase in females in some occupations, males will begin to be excluded. And finally because “boys have a much poorer experience of school (apart from sport) than girls do. This seems to be contributing to boys’ troubles on the street, to male youth suicide, and to much higher suspension and exclusion from school” (10). He goes so far as to say that it is not only parents and educators who should be concerned but Western world governments who should take notice and take action.

Noble and Bradford (2000) agree with West although in a less dramatic way. When addressing the issue of why boys’ underachievement should be considered important, Noble and Bradford stressed the fact that it can often mean disruptions in learning for other students as Francis pointed out. But boys who fail at school can also be disruptive to others later in life:

A search of a criminology database revealed 581 studies, worldwide, referring to school achievement or performance (Pease, 1998). A noticeable gender difference, worthy of staffroom discussion, is that dysfunctional women turn on themselves while dysfunctional men turn on others. This is an unwelcome trend for society, but may be

particularly unwelcome to girls and women who are more vulnerable.
(Noble and Bradford 2000, 15)

They also quote a 1993 Ofsted report on the importance of the issue from an employment perspective:

The gap between boys and girls in language-based subjects has widened because girls' attainment has improved. It is an international trend. The French are concerned about boys and so are the Germans and Japanese. The Americans have been looking at this area for years. It is not a recent development, nor is it British, nor is it English. But it has become an accentuated area for focus because of concern about boys' employment opportunities.

(Noble and Bradford 2000, 11)

However, not everyone agrees that boys' underachievement is an issue or should be an issue. In fact, Skelton (2001) asks the question, ARE all boys underachieving?

By couching the debate in terms of 'boys' underachievement' implies that it is all boys who are failing at school and obviously this is not the case (Murphy and Elwood 1998). At the same time there are particular groups of boys who are doing badly but not just because they are boys. Underachievement generally is classed and racialized and as Epstein et al. (1998) point out, 'class and the associated level of education of parents (for both boys and girls) continue to be the most reliable predictors of a child's success in school examinations'.

(Skelton 2001, 32)

But she also explores and debates how schools cater to masculinities and how boys reject the authority and control of schooling based on their social environment. She, too, discusses how male dominance in the school limits space for girls both in and out of the classroom (a good enough reason to be concerned in and of itself).

Traditional accounts of child development, according to Connolly (2004), have provided little space for a consideration of gender, especially the work which is based largely around Piaget. Connolly specifically notes the

universal stages of development where gender he says is largely removed from the analysis:

. . . treating boys and girls as if they all naturally and uniformly follow the same developmental pathway. Moreover, Piaget's notion of child-centered development and his concept of 'readiness' have also relegated the role of adults in children's learning to the sidelines.
(Connolly 2004, 4)

When exploring the fact that direct intervention in play by adults has been "frowned upon," Connolly quotes the work of MacNaughton (2000). This has discouraged and restricted the people working with children in the early years in terms of gender issues. Vygotsky (1978), Connolly says, allows for an understanding of gender but also provides the rationale and methods for undertaking more direct work with young children.

In addition to looking at the gender issues from a theoretical framework, Connolly looks at two in-depth case studies to identify some of the reasons for boys to "lag behind girls." His conclusions maintain that the reasons differ to the factor of mere social class. His case studies "demonstrate the overriding importance of social class in determining the very different forms of masculinity adopted by the boys and thus their attitudes towards education and learning" (Connolly 2004, 5). Connolly shows how the masculinity adopted by the boys observed was dependent on their social class. The masculinity constructed was influenced by the adults in the boys' lives:

For both groups of boys, the analysis begins with an exploration of the perspectives of parents and teachers, and thus the broader contexts of home and school within which the young boys are located, before then examining, in some detail, the actual experiences of and perspectives towards schooling of the boys themselves.
(Connolly 2004, 5)

Everyone seems to agree, especially considering the statistics quoted, that success in the classroom is important for boys and for girls no matter what the

shape, size, race or class. However, it is true to say, as we will see later, that girls are “classed and racialized” but do not respond to learning in the same way that boys do. The recent research confirms the fact that boys are underachieving especially in reading but the question is why. As West points out reasons vary from country to country but some themes recur and stand out in the literature.

2.1.3. THE WAY BOYS AND GIRLS LEARN

Before looking at the possible causes for boys’ underachievement, it is paramount to understand how people learn. The organ of learning is the brain. Gurian (2001) describes the basics:

Every human brain has one hundred billion neurons (as many cells as there are stars in the Milky Way), and one hundred trillion glial, or connecting cells. An adult human brain is eight pounds of dense matter in three major layers: the cerebrae cortex at the top; the limbic system in the middle; and the brain stem at the bottom, connecting with the spinal cord. Historically, for more than two million years, the brain has grown from the bottom up, the upper limbic system and the four lobes of the cerebrae cortex (neocortex for short) developing later than the lower limbic and the brain stem.

(Gurian 2001, 18)

Although the three layers constantly interact, Gurian says that they have distinct functions:

The brain stem is where fight-or-flight responses are harbored. When we’re in an immediate crisis, we often feel our instincts take over. It happens in the brain stem. This most primitive part of our brain is essential for our survival.

Our limbic system is generally where emotion is processed. A sensory stimulant comes into the brain through our eyes, ears, skin, or other organs, and we experience an emotive response to it; the immediate sensual and emotive response resides, to a great extent, in the limbic system in the middle of the brain. Although some aggressive responses are brain-stem responses, others come from the limbic system as well—specifically from the amygdale, which lies at the bottom of the limbic system, just above the brain stem.

The four lobes at the top of the brain are generally where thinking occurs. In each lobe, different sensory stimulants are also processed. Certain cortices in the top of the brain (for instance, the prefrontal cortex) handle the majority of our moral and other decision making. The top of the brain is divided between the left and the right hemisphere. The left is primarily associated with verbal skills-speaking, reading, and writing-and the right is primarily associated with spatial skills, such as measuring, perceiving direction, and working with blocks or other objects.

When we are teaching a child the higher-order content of a novel, or how to do math, we are generally speaking to the top of the brain, though emotional responses often mix in, especially if the student has an emotional reaction to the content of a book or lesson. In this way, the neocortex and the limbic system work together.

(Gurian 2001, 18)

The cerebrum (neocortex), the cerebellum (limbic system) and the brain stem are three separate yet connected parts as described by Gurian. The cerebrum makes up nearly five-sixths of the brain's weight and is divided into two hemispheres which have distinct regions responsible for different functions. The left hemisphere, responsible for right-hand control, language both spoken and written, reasoning and logic, is dominant in most right-handed and also in many left-handed people. The right brain is occupied with left-hand control, emotions, imagination, art and music skills. Although each hemisphere has highly specialized functions, the hemispheres work together in all activities. However, it is interesting to note that a touch on the left-side of the body is registered in the right hemisphere and a touch on the right is registered in the left hemisphere meaning that damage to the left hemisphere affects the right side of the body rather than the left.

The cerebellum, beneath the cerebral hemispheres is responsible for all motor activity. It works in coordination with the cerebrum and the brain stem. An inter connection exists. The brain stem found in the middle of the brain is involved in sensory signals and vital bodily activities. The lower limbic system, a part of the brain stem, is responsible for memory storage and recall.

Understanding how these regions of the brain work together sheds light on learning. Caine and Caine (1994) look at how the brain learns.

The Caines describe Maclean's (1990) evolutionary theory of the brain being three in one. The "triune brain theory" recognizes the inter connections between each layer. According to MacLean, the three brains evolved from a single primitive region: the reptilian brain (consisting of portions of the brain stem and the cerebellum). The reptilian brain looks after the "Physical survival and overall maintenance of the body" (59). In this "ancestral brain," MacLean has identified behaviors very similar to those in the animal kingdom such as territoriality, ritualistic display, nesting behaviors, social hierarchies, mating rituals and flocking behavior (social conformity). The Limbic system (the brain stem) contains both the amygdale which associates events with emotion and the hippocampus which plays an important role in memory. This second evolution begins the more human behaviors of self-awareness and altruism. The final evolution is the neocortex (the cerebrum) which "renders logical and formal operational thinking possible and allows us to see ahead and plan for the future" (63). Although the layers are responsible for different duties, they interact with each other while performing their duties.

The brain, however, is not a solitary entity. It is merely the body's control panel. Nash (1997) in an article for Time magazine quotes neurobiologist Shatz of the University of California, Berkeley who compares the neural connections to teenagers with telephones:

... cells in one neighborhood of the brain are calling friends in another, and these cells are calling their friends, and they keep calling one another over and over again, "almost . . . as if they were autodialing."

(Nash1997, 52)

These phone calls keep the different regions of the brain informed.

The brain functions within the context of its body and its body functions within the context of its environment. Taken out of its environment, research suggests that the brain would not learn. In Nash's article, she says that one of the most "breathtaking" discoveries from neuroscientists is "the finding that the electrical activity of brain cells changes the physical structure of the brain" (Nash 1997, 52). According to researchers at Baylor College a child deprived of a stimulating environment may develop a brain 20 to 30 percent smaller than normal (53). The Caines reported similar findings in rat experiments. Rats living in stimulating environments developed brains that were heavier than rats that lived in impoverished environments. The Caines contend that "our experiences shape our brains" (Caine and Caine 1994, 31). The three regions of the brain are connected and, in turn, connect a body to its reality. Because of the plasticity of the brain, knowing is different for everyone and also changes within the lifetime of a given person.

Our memories are the vehicles by which we recall connections, by which we remember what we know. In the Caines' research on memory, they identify two types of memory, the taxon memory and the locale memory. The taxon memory is where we store memorized chunks. The current system of Italian education relies heavily on rote memorization. Unfortunately, "our taxon memories are physiologically 'set' in a way that makes them quite resistant to change" (43-44). On the other hand, the locale memory can record complex items and relationships between those items. This natural memory system easily records experiences especially those involving the senses. Its capacity is not limited and has an updating ability. Whereas the taxon memory is motivated by rewards and punishment, the locale memory thrives on "novelty, curiosity, and expectation" (46). Again both systems like the layers of the brain interact. However, according to Caine and Caine if the connections between them are weak, indexing is ineffective.

The brain and its ability to “know cannot be studied out of context which includes both the body and the community in which the body functions. Caine and Caine talk about the implications of body in knowing: “Everything that affects our physiological functioning affects our capacity to learn” (88).

Learning not only changes knowledge, it can actually physically change a brain. But knowing is also emotional, even cultural. Caine and Caine link emotions directly with learning: “Emotions and cognition cannot be separated and the conjunction of the two is at the heart of learning” (Caine and Caine 1994, 104). Learning cannot be detached from how we feel. In other words, if a child feels hungry that is in the learning. If a child feels threatened, that is in the learning. Caine and Caine conclude from MacLean’s theory that “none of the ingredients that we deal with in education, such as concepts and emotions and behaviors, is separate. They influence and shape each other” (63).

In another *Time* magazine article, Lemonick (1997) reports on how serotonin, a brain chemical, affects everything from mood to eating habits and now research shows that altering the serotonin chemistry in the brain can cause abnormalities in heart valves as well as a fatal lung condition. Serotonin is produced in the brain stem and is a neurotransmitter or, in lay-terms, a messenger. Regulating the production of serotonin can control blood-pressure, depression, weight gain, eating disorders, schizophrenic hallucinations, and obsessive-compulsive disorders (Lemonick 1997, 47-51). In other words, what’s in the body is in the mind, and what’s in the mind is in the body.

Beyond the anatomy of the brain is distinguishing between the male and female brain. According to Linden (2007) differences in the male and female brain can indeed be identified:

Male brains, on average, are slightly bigger than female brains, even when a correction is made for body size. This is most apparent in measures of the thickness of the right cerebral cortex. More interestingly, a particular cluster of cells in the hypothalamus called INAH3 (an acronym for interstitial nucleus of the anterior hypothalamus number 3) is two to three times larger in men than in women. This is very suggestive because the cells of INAH3 have an unusually high density of receptors for testosterone and also because neural activity in this region is correlated with certain phases of male-typical behavior during sex . . . there are two key regions that are proportionally larger in the female brain. These are the corpus callosum and the anterior commissure. These structures are bundles of axons (white matter) that carry information from one side of the brain to the other. They are particularly important in linking the two sides of the highest and most recently evolved brain region, the cerebral cortex. (Linden 2007, 155)

Linden goes on to say that he believes the list of differences is incomplete and as research continues differences will be noted not in size but in cellular structure, biochemical constituents, and/or electrical function. But what do these neuroanatomical differences mean in terms of cognition and behavior? According to Linden:

On average, women score better than men on some language tasks, such as rapidly generating words in a particular category. This is called “verbal fluency” and has been found cross-culturally. They outscore men in tests of social intelligence, empathy, and cooperating. On average, women are better at tasks that involve generating novel ideas, and they excel at matching items (spotting when two items are alike and arithmetic calculation. But men generally outperform women on tests of mathematical reasoning, particularly those using worked problems or geometry. They are better at some spatial tasks such as mental rotation of three-dimensional objects and distinguishing figures from the background. The general conclusion is that, on average, men and women can have abilities throughout the performance range for all of these traits. Tests that seek to measure general intelligence have not found significant differences between large male and female populations.

(Linden 2007, 157)

Linden also addresses the nature-nurture issue noting that “experience can mold neuronal connections and fine structure as patterns of electrical activity

give rise to expression for certain genes” (157). However, he continues giving evidence in favor of the genetic argument:

At present, although it seems reasonable to imagine that sociocultural factors might affect sex differences in brain structure, there is no evidence leading to either acceptance or rejection of this idea. But several lines of evidence argue for a genetically based explanation. For example, accumulating evidence indicates that gender differences in behavior can be seen very early in life and across species. On average, newborn girls spend more time attending to social stimuli such as voices and faces while newborn boys show greater fascination with spatial stimuli such as mobiles . . . correlational studies on both girls and boys have shown that the levels of prenatal testosterone can predict performance on some spatial tasks when it is measured later in life.

(Linden 2007, 158)

Some authors are skeptical about the benefits of neuroscience research to educational processes. Willingham (2006) expresses his doubts regarding the usefulness of brain research to teaching:

In a trivial sense we could say that a better understanding of the brain is bound to lead to improved classroom practice some time in the future. A deep understanding of the brain will come. Hand-in-hand, with a deep understanding of the mind, and that is bound to help education there is not, however, any prospect of a brain-based learning program of any substance in the near future . . . In summary, I hope educators will approach claims that instructional techniques and strategies are “proven” because they are based on neuroscience with a healthy dose of skepticism.

(Willingham 2006)

Caine and Caine (1994) differ with the stance of Willingham and have based their teaching methods on brain-based teaching. Learning creates and reinforces connections. When the learner can see and feel the connection between subject matter and him or herself, the learning is deeper and longer lasting. When both teacher and student recognize inner and inter connections, the organ of learning functions optimally.

2.1.4. NEUROSCIENCE AND TEACHING METHODS

Teacher expectations and behavior in the classroom should change as knowledge of the brain and how it learns increases. Caine and Caine identify twelve principles of “brain-based” learning. Firstly, they recognize that the brain is a “parallel processor.” It functions on many levels simultaneously. Secondly, they say that “learning engages the entire physiology.” Whatever happens in the body and its environment affects learning. Their third principle states that “the search for meaning is innate.” The meaning-making process is a basic survival tactic for the brain. Fourthly, they claim that meaning occurs through the “organization and categorization of information”: through patterning. Fifth is the principle that “emotions are critical to patterning.” Emotions affect memory and cannot be separated from the thoughts we think. Their sixth principle states that the two hemispheres of the cerebrum are interactive so that the brain “processes parts and wholes simultaneously.” The seventh principle recognizes that the brain learns from focused attention but also from those stimuli on the side-lines; those stimuli that are perhaps only subconsciously noticed. The eighth principle takes the seventh a step further. They say that learning is not only a conscious but also an unconscious process. The ninth principle looks at the two types of memory: “a spatial memory system and a set of systems for rote learning, “the most valuable of which is the natural or spatial system because it allows for “instant memory of experiences” without the need of rehearsal. The tenth principle expands the ninth saying that spatial memory is the way in which we understand and remember best. The eleventh principle looks at a term called “downshifting.” When the brain perceives a threat, its capacity to learn is diminished. In other words, threatening situations cause our brains to downshift. The last principle states that each brain is different. Although each brain operates with a basic system, the system is internally and physically altered as it learns. Thus, “each brain is unique” (Caine and Caine 1994, 87-95).

The Caines' principles lead to some basic implications for teachers: learning cannot be taken out of the context of body, environment or culture. And secondly, meaningfulness is paramount to a "deeper" learning. The Caines believe that "one of the most important elements in learning is meaning and that meaning is related to depth of information processing . . ." (99).

Unfortunately, some education systems are almost meaningless: "Virtually, the entire teaching/learning process is centered around the presentation, memorization and recall of facts" (Miller 1990, 22). This is especially true in a teacher-centered education system.

In addition to brain-based learning is Gardner's (1984) theory of multiple intelligences. He believes that not every brain has the same talents or the same way of learning. Gardner's work proposes the existence of seven separate human intelligences: linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal and intrapersonal. The first two-linguistic and logical-mathematical- are the ones he says have been most valued in school. Gardner himself does not place value on a single intelligence: "I must stress that no intelligence is in itself moral or immoral. Intelligences are strictly amoral, and any intelligence can be put to a constructive or a destructive use" (Gardner 1999, 45).

According to Gardner, research shows that schools which employ MI techniques are effective:

There is much evidence that schools influenced by MI theory are effective. The testimonials from satisfied administrators, parents, students, and teachers are legion. And many of the classes and schools claim that students are more likely to come to school, to like, school, to complete school and to do well in assessments . . . I am most pleased that the educational researcher Mindy Kornhaber and her colleagues at Harvard's Project Zero have undertaken the SUMIT (Schools Using Multiple Intelligences Theory) Project. The research team has been studying forty-one schools around the United States that

have been applying MI theory for at least three years. The results from these schools are encouraging: 78 percent of the schools reported positive standardized test outcomes, with 63 percent of these attributing the improvement to practices inspired by MI theory. Seventy-eight percent reported improved performance by students with learning difficulties. Eighty percent reported improvements in parent participation, with 75 percent of these attributing the increase to MI theory; and 81 percent reported improved student discipline, with 67 percent of these attributing the improvement to MI theory. Even though these figures may reflect a positive spin, they are based on empirical data, which an impartial party cannot dismiss.

(Gardner 1999, 112-113)

Gardner's theory challenges that of the single intelligence and simply allows students to shine in their own way which based on brain research is logical since every brain is as uniquely formed as a fingerprint although not necessarily genetically so. The one kind of educational program which Gardner believes to be "antagonistic" to his theory is that of the uniform or traditional school:

The essence of uniform schooling is the belief that every individual should be treated in the same way: study the same subjects in the same way and be assessed in the same way. At first, this seems fair: No one has special advantages. And yet, a moment's thought reveals the essential inequity in the uniform school. The uniform school is based on the assumption that all individuals are the same and, therefore, that uniform schooling reaches all individuals equally and equitably. But we obviously look different from one another and have different personalities and temperaments. Most important, we also have different kinds of minds. Indeed, if we follow the line of reasoning in this book, no two people have exactly the same kinds of minds, since we each assemble our intelligences in unique configurations.

(Gardner 1999, 150)

This kind of schooling is clearly an example of Hirumi's definition of the teacher-centered methods, one that Gardner believes is not the most productive in terms of meaning making/learning. Based on how the brain best learns, the uniform system of teaching produces a surface knowledge, a knowledge only skin-deep. In accordance with the brain research presented

by Caine and Caine, there are levels of understanding: “The main distinction . . . is between surface knowledge and meaningful knowledge” (7).

Gardner argues against those who say that individually configured education is only a dream and cannot possibly be a reality in a classroom with thirty or more students. His strategies for doing so include culling data about the way a child learns, allowing students to remain with the same teacher(s) for more than one year, assigning teachers and students flexibly, having an effective information transmission system so new teachers receive information about students, have older students work with younger students (153).

Despite skepticism various educators have taken the principles of Caine and Caine’s brain-based learning theory and Gardner’s multiple intelligence theory including organizations like the International Baccalaureate’s Primary Years Program and its Middle Years Program as well as LEAs such as Gloucester. However, not all educators take these theories into account when schooling children.

According to a document published by the Gloucester LEA based on the work of Caine and Caine and that of Gardner, most people prefer one or the other ways of processing, but the most effective learning utilizes both sides of the brain. A generalization made by the LEA document, places many girls as left sided and many boys as right sided. Girls or left-sided characteristics and/or learning preferences include language, logic, maths formulae, number, sequence, linearity, analysis, words of a song, learning from part to whole, phonetic reading system, unrelated factual information, critical thinking, likes words, symbols, letters, prefers detailed orderly instructions, structure and predictability. On the other side, boys or the right-sided characteristics and/or learning preferences are more concerned with relationships, creativity and the moving from the whole to the part: prefers forms and patterns, happy with randomness, spatial manipulation, rhythm, musical appreciation, images and

pictures, graphs, charts, dimension, imagination, daydreaming, visioning, whole language reader, likes open-endedness, surprises, spontaneous, prefers to see or experience it first (21). The LEA goes on to say that “most school work favours left brain thinking” (21). They quote Shaw and Hawes (1998) who say that “70% of the National Curriculum is geared towards just two intelligences-linguistic and logical mathematical . . .” (23). They also quote other researchers as saying that current educational practice is more suited to the female brain (23).

When people receive information, it is taken in through the five senses. Milton (2003) sites the theory of Neuro-Linguistic Programming (NLP) saying that “information is absorbed through our senses and in order to access information as fully as possible, learning needs to be multisensory. When a person uses one internal sense consistently it is called their preferred system in NLP and this preference influences the way a person learns and communicates” (6). The three main learning preferences are visual, auditory and kinesthetic which are often referred to as VAK.

According to the research done by the Gloucester LEA, some people prefer visual (29%) while others prefer auditory (34%) while still others have a kinesthetic preference (37%). This, the LEA says, is important because boys are more likely to be kinesthetic learners while girls are visual learners but only 10% of teachers have a kinesthetic preference! The conclusion they say is that “there is a mis-match between the most common teaching styles [90% visual and/or auditory] and the learning preferences of many boys . . .” (25).

Skeptics such as Bricheno and Younger (2004) say that “there is little independent empirical research which supports the wide-ranging claims made by protagonists of accelerated learning and multiple intelligences” (3). In an attempt to critically evaluate some claims made regarding learning styles, Bricheno and Younger conducted research in two secondary and two primary

schools in the West Midlands on the use of VAK in teaching and learning. They conclude that although evaluation of the effectiveness of VAK is a complex issue due to the difficulty in identification and measurement of students' preferred learning styles, "implementing this learning styles approach appears to be encouraging teachers to plan more varied lessons, and could therefore be seen as a useful way of improving the effectiveness of teachers" (21). This factor, according to Bricheno and Younger's study, seemed to indicate that the learning styles approach had a "positive effect on attitudes [of students] on core subjects" (22). Thus from Bricheno and Younger's research conducted in 2004 two principles became evident: 1) more research is necessary to evaluate the effectiveness of teaching theories based on VAK, brain-based learning and MI, 2) learners may or may not benefit directly from VAK or MI but teachers benefit in enthusiasm which motivated them to put more effort into their lessons which indirectly benefited the learners in the study.

The way people learn has been outlined along with the effects on educational practices. Whether the MI theory, the brain-based learning, or VAK are technically correct in relation to learning is beyond the scope of this study; however, what is clear is that the traditional (or uniform classroom as Gardner calls it) is not the most effective way of achieving maximum learning among either boys or girls. Teachers who learn more about the various learning/teaching theories become enthusiastic about their lessons and use various techniques and methods to present and evaluate learning which in turn improves the outcome. With the above learning ideas in mind it is easy to identify why boys (or girls) might be underachieving in the classroom. Below the literature around this issue is explored.

2.2 POSSIBLE CAUSES FOR BOYS' UNDERACHIEVEMENT

Educationalists point to a myriad of possible causes for boys' underachievement not all of which are based on the physiological. Wilson (2006) believes that there is no single cause for boys' under-achievement but rather he identifies thirty barriers to boys' learning, some of which, he says, are more significant than others. On the other hand, the Gloucestershire LEA (2003) identifies only four important factors which influence boys' achievement in schools: boys' attitudes, teachers' attitudes, peer group pressure, school values (5).

Once the literature has been sifted through seven major themes recur. Understanding the how the brain learns will help in understanding why the themes that run throughout the literature on boys' underachievement with regards to the possible causes can be grouped as follows:

- Feminization of academics
- Class
- Motivation
- Curriculum
- Assessment
- Classroom and school management
- Genetic factors and learning preferences

2.2.1. FEMINIZATION OF ACADEMICS

The fact that boys and girls have inherent differences (whether biological or environmental) in the way they learn is in and of itself not a problem. However, it could be seen as a "barrier" if the educators are largely female or teach in a primarily left-brain, non-kinesthetic way. Skelton (2001) points out that primary schools in particular are "feminized institutions" because the routines and practices of primary classrooms are more adapted to females and female behaviors, low expectations are held of boys, male role models are

infrequent, and the curriculum delivery and assessment also favors girls' learning styles (35). Skelton says that this feminization is in today's thinking a major reason behind the underachievement of boys (35).

West (2002) argues the same: primary schools are dominantly female. He quotes a New Zealand report to support his own personal experiences:

Most teachers are women. It is argued that some schools place a greater emphasis on feminine values and that teachers adopt teaching styles and assessment practices that favour girls over boys. This may lead to differences in the performance of boys and girls at school that are unrelated to their ability. Changes in teaching practice may be needed to counter boys' perception of literacy as a feminised subject.
(West 2002, 14)

Weaver-Hightower (2003) explores the theoretically oriented literature where the major studies of sociocultural processes of masculinity include: multiple masculinities (historically and contextually dependent); masculinity developed culturally through race, class, and sexuality; the struggle between dominant masculinities; active construction of masculinity through the action of the individual; masculinity as it is subtly embedded in policies and structures; the efficacy of traditional ethnography to explore masculinity; the development of masculinity through larger social processes. These formations of masculinity are not aided by social transformations or by the feminization of academics. Renold (2001) believes that hegemonic masculinity shapes boys' learner identities. She explores the ways in which boys "negotiate the tensions between the perceived feminization of academic success . . . and the need to project a coherent and stable hegemonic masculinity" (369) and then she looks at how high achieving boys must maintain alternative masculinities.

Renold quotes various research which confirms the idea that male academic success is perceived as feminine:

. . . Mac an Ghail (1994) describes how his 'academic achievers' were positioned as 'effeminate', and consequently bullied because of their

perceived masculine ‘lack’ and investment in non-hegemonic versions of masculinity. Walker’s (1988) study further illustrates the different ways in which ‘sporting’ boys negotiated the academic side of schooling through maintaining a strong commitment to a masculinised active, competitive and misogynist culture that revolved around sports, ‘being hard’ and girlfriends.

(Renold 2001, 369-370)

The feminization of academia contributes to the underachievement of boys but social class is also seen as a major factor.

2.2.2. CLASS

With boys falling behind linguistically as will be indicated by West and Wilson later, it is not surprising that social class plays a role in the success or failure of children (in particular boys) at school. Wilson (2006) quotes a study conducted in the United States by Hart and Risley (1999) that shows the vocabulary of a three year old in a middle-class family has the same vocabulary as an adult from a ‘welfare family.’ Professional parents, Wilson says, speak more than 1,500 words per hour than unemployed parents (15).

Francis (2000) says that the work of Epstein et al. (1998) identifies three excuses used by the popular and academic press to explain why boys are underachieving: poor boys, failing schools and boys will be boys. The poor boys reasoning presents boys as “disempowered victims.” The failing schools excuse blames schools for not making education appealing to boys while the boys-will-be-boys excuse simply contends that the issue has to do with inherent differences in gender (10-11). However, Francis concludes that “certainly it seems to be the case that social class remains the most likely factor to effect one’s educational achievement, and that this point has been persistently ignored by the media and policy-makers in recent years” (11).

2.2.3. MOTIVATION

Motivation is linked to hegemonic masculinity, feminization of academics and social class. Behind the lack of motivation may lie many factors but the reality is that without motivation it is difficult for anyone to achieve. West (2002) claims that both boys and girls are disadvantaged but says about boys that their school careers are less successful, terminate earlier, and are characterized by failure, lack of motivation and behavioural problems. Boys, he says, are less positive about and find less rationale for school (8).

Martin (2003) reported on a study where he collected data from 3773 high school students which “suggest that girls score significantly higher than boys in their belief in the value of school, learning focus, planning, study management, and persistence while boys rate significantly higher in self-sabotage/self-handicapping. However, girls rated significantly higher than boys in anxiety. In the qualitative phase of the research, boys identified the following features of effective and motivating pedagogy: a good relationship between student and teacher, the teacher’s enjoyment of teaching and working with young people, providing boys with choices and input into the lesson, making schoolwork interesting and/or relevant, providing variety in content and methods, and respecting boys’ opinions and perspectives” (43).

Martin found that motivation plays a significant role in educational intervention for boys’ achievement. He says that to be effective motivation must be “targeted and multi-faceted” (44). He defines motivation by saying the following:

Motivation can be conceptualized as students’ energy and drive to learn, work effectively and achieve to their potential at school, and the behaviours that follow from this energy and drive.

(Martin 2003, 44)

This motivational energy identified by Martin can be hindered or enhanced. It is the role of the school to enhance motivation through curriculum, assessment, and classroom and school management. However, this is not always what happens.

2.2.4. CURRICULUM

One surprising barrier that Wilson (2006) found had to do with the curriculum. He claims that boys are forced to read and write before they are physically or emotionally ready. He says that according to the OECD in 2004, Finland was the only country belonging to the organization where boys' underachievement was not an issue. Finland was top in science and reading and second in math. Ironically, in Finland school only begins at seven with little setting or streaming and the schools have significant numbers of male teachers. It is these schools, Wilson claims, which do "SPECTACULARLY better with those of average and below average ability" (17).

Noble and Bradford claim that the changes in society have spurred the need for modifications of curriculum. One important change has been in the skills needed for employment. Whereas in the past "labouring, factory work, the coal-mines, shipyards and steel mills, semi-skilled jobs on the railway, were all available . . ." (17) which did not rely on academic success and yet provided a suitable income for men and their families. Instead now jobs are available in the service sector which requires strong communication skills (18).

However, as has been pointed out earlier, this alteration would not be particularly beneficial to boys. Although one would think that curriculum changes might help boys, West thinks differently. He refers to the work of Rowe for the Australian Council for Educational Research, and Downes and Wragg in the UK summarizing the arguments saying that curriculum changes

work against boys in the following ways: reading more carefully is necessary, portfolios are obligatory, fewer tick-the-box answers are required, few short-answer tests are given, more emphasis is placed on verbal reasoning, science and maths are more verbally demanding, more subtlety in answers are required for top marks (92).

The reasons why curriculum changes affect boys more than girls, West says, is because boys mature later, they read worse on average, their concentration on verbal work is worse, their self-esteem regarding reading and writing is lower, they get lost in too many words, they get bored and thus misbehave when confronted with reading and writing, they suffer more from bad teaching than girls do, and when in co-ed classrooms they get more negative attention (94). As has already been mentioned earlier, a good number of boys favor kinesthetic learning (Gloucestershire 2003, 26). The National Curriculum, according to the same document, focuses on two intelligences-linguistic and logical-mathematical-up to 70% of the curriculum! Many of the activities required by the curriculum have an emphasis on reading and writing and are combined with activities which are “co-operative, non-competitive, sedentary and requiring sustained attention and effort” (23). Even Noble and Bradford (2000) think that the curriculum changes seem to be more hostile to boys which they say has had “an effect upon their attitude, behavior, effort and achievement” (19). With the curriculum geared toward left-brain thinking and boys being largely right brain thinkers, the assessment of a left-brain curriculum is most likely going to be left-brain orientated.

2.2.5. ASSESSMENT

In addition to curriculum changes which do not favor boys, West quotes a report by the Victorian Association of Secondary School Principals which said the same about assessment:

Changes in assessment seem not to have favored boys. These were to the boys' detriment because of their already higher levels of disaffection with school-based learning. There are many variations across school performance, but there is evidence that boys had a greater range of variability than girls, and there are different patterns of variance regionally in the UK. There is evidence that girls are better than boys, on average, at sequential and analytical approaches to learning. The shift towards this style of learning and retreat from fact-based learning seems to have disadvantaged most boys.

(West 2002, 97)

West also claims that boys do worse when the teacher-assessed component is increased. He says that some UK research goes so far as to suggest that boys are even penalized by teachers for their misbehavior. In making the curriculum and assessment more girl-friendly, the two have become less friendly for boys (98). Noble and Bradford (2000) agree with West saying that current assessment methods do not favor boys because they often require organization and long-term planning (19).

2.2.6. CLASSROOM AND SCHOOL MANAGEMENT

Also according to West there is a discrepancy between how schools want boys to be and how boys actually are which has to do with how the class and the school are managed. West says that the expectation of schools and teachers for boys include being neat and tidy, conforming to the teacher's idea of the world, being obedient and well behaved, using colourful descriptive words, liking stories about nice, cultured people, being predictable and calm, sitting in seats and staying there, being nice and quiet. However, boys feel the need to be rough, tough, untidy, noisy, to slag off ant girls, slag off at other boys, hate anything a bit gay, be gruff and curt, use informal language, like 'how to' books, talk about sport and sex, say strange things and think about consequences later (87).

West quotes a research project completed by Wilson on why boys in the UK disliked school from ages four to eleven: they wanted to be outside, they

wanted to play actively, they found it difficult to concentrate on schoolwork, they were not interested in being neat, they felt reading and writing were too feminine, they thought they were better at their work than in reality (87).

Noble and Bradford believe that it is in the classroom that boys can continue or break the underachievement cycle: “Teachers have an enormous amount of discretion in their classroom management which can either exacerbate or ameliorate the motivation and under-achievement of boys” (22). They also realize that managing the school plays a significant role in ensuring the success of boys in the classroom. They say that quality control of teaching, limiting setting and streaming, and no tolerance of the anti-swot culture are musts from the management team and will effect how boys perceive school and how schools perceive boys.

With regards to setting and streaming Noble and Bradford say that many bottom sets contain more boys than girls and that “the research evidence is that setting, particularly tight setting, may well penalize the very students schools need to succeed if school-based targets are to be met” (60). The authors look at research from many including Slavin, Linchevski, Boaler and Jones all of which seem to agree that ability setting can be detrimental to students’ self-esteem, motivation, and academic success:

It is clear that research into setting as it has been experienced in the UK and abroad strongly suggests that setting, particularly tight setting, militates against the achievement of boys, ethnic minorities and pupils from working-class backgrounds. Its positive effects upon pupils generally achieve just as well in a mixed ability or broad setting. If the country is to reach its targets for academic achievement by 2002 it is not the high ability students who have to be helped-they are already succeeding-but the very pupils which setting penalizes most.

(Noble and Bradford 2000, 63)

Thus, it is evident that both classroom and school management play an integral part in ensuring either the success or failure of students to the extent that evidence shows that highly placed students tend to accept and adopt the

school's norms but the lower placed students tend to resist the rules in addition to or due to the labeling and stereotyping that goes on according to ability grouping (64). But some aspects of success are less controllable such as genetic factors.

2.2.7. GENETIC FACTORS

An indisputable factor must be genetics. According to Noble and Bradford (2000), some research suggests that gender differences in babies and young children point to “marked differences in linguistic abilities” for girls and boys while Darwinists argue that the differences are due to the roles played by men and women for the last thousands of years. However, differences there are from an early age but roles are changing. The same authors quote statistics which point to some massive social transformations in families. They say that in the UK there are 1,250,000 single parent families largely headed by women. Male role models in these single-parent families are lacking. “Girls are expected to be well behaved, well presented, neat, organized, be keener readers, and clean and conventional. Boys tend to be expected to be less mature, less responsible, more rebellious, dirtier, sportier. And to have lower concentration spans. These expectations are usually met. Many parents feel that there is no need to worry about their sons’ learning until they get to secondary school, by which time it is often too late” (19).

Parental expectations do not help a situation where boys seem to be naturally lagging behind linguistically. West (2002) says that boys score lower on verbal reasoning and already between ages of five and seven the vocabulary of girls is higher and by seven girls’ writing vocabulary is “two standard deviations ahead of boys” (27). While girls he says are becoming more verbal boys are becoming physical. At an early age a gulf between the sexes is already being formed (27).

Wilson (2006) agrees with West saying that neurologists believe the first year of life can be very important for success or failure and that boys are particularly sensitive to stress in the early years. He goes on to say that psychologists tell us that girls begin using language co-operatively while boys begin using it competitively. Females he says are more prone to empathize while males are motivated and engage with systemizers. According to Wilson, the statistics related to boys developing behaviour or learning conditions are significant. The ratio of boys to girls with dyslexia is 3:1, with traumatic brain injury 2:1, with Tourette's syndrome 3:1, with autism 4:1, with Asperger's syndrome 10:1, with ADHD 9:1, and with conduct disorder 3:1 (Wilson 2006, 6).

The idea of genetic factors brings the literature review back to the way boys and girls learn. As Caine and Caine, Gardner and proponents of VAK pointed out many people are naturally right brain-kinesthetic learners while the expectations of the curriculum and the way in which it is presented is very often left brain and visual or auditory. The question then is how can the curriculum and its presentation be remedied to ensure that all children benefit from an equal opportunity to receive an education and thus be more self-confident, successful citizens of their local and global communities?

2.3. CRITERIA FOR IMPROVING BOYS CHANCES IN THE CLASSROOM: GENDER SPECIFIC METHODS

According to West (2002), there are ten specific ways in which teachers can help boys which include for the teacher to talk less, for boys to “do” more, to use humor, to get help, to say “you can do it”, to use competition, to help with writing, to help with male identity, to be clear, to be brief, to be positive and to be gone. Many of the recommendations from the National Healthy School Standard to Raise Boys' Achievement in the United Kingdom, are similar and include the following: use a range of teaching styles in all lessons, deliver work in bite-sized chunks which are time-limited, break the lessons down into

a number of different activities which include more active learning opportunities (kinesthetic), ensure that the work feels relevant and has a purpose and audience, make sure the work is delivered with pace, direction and progression, use an element of challenge or competition with short-term goals present, allow social learning such as group discussions and group projects, incorporate reflection and review at the end of lessons, give positive feedback regularly, use more speaking and listening activities, model the written tasks, recognize different learning styles and practice learning within the community (Wilson 2003, 12).

Both West and the National Healthy School Standard to Raise Boy's Achievement agree with the Gloucestershire LEA: the three ways of learning include visual, auditory and kinesthetic. The National Healthy School Standard to Raise Boy's Achievement goes so far as to claim that schools underplay the kinesthetic which as has already been pointed out is an important role for boys learning:

Research show that there are generally significant differences between the ways in which most boys and girls prefer to learn. The fact that many schools tend to underplay kinesthetic learning can be particularly significant for many boys.

(Wilson 2003, 12)

After having looked at the work of West and leading educational publications in the U.K. it is evident that brain-based learning, MI and VAK play a role in ensuring the success of all pupils in the classroom and later in life (whether due to neural effects on the students or due to the increased enthusiasm of teachers which improves and varies methods). Therefore, a combined and adapted list of suggestions guides the research conducted in the Italian state primary school. These suggestions include:

- be varied to include the kinesthetic (Such activities might include drama or role play, displays, movements to demonstrate a concept or dance, mapping a route on the playground, writing and performing a song, going on field

trips, construction activities, material that can be manipulated)

- be less teacher-talk and more student-doing (Boys, as has been pointed out earlier, are not particularly good listeners; therefore, it would be better to shorten the preamble and get boys “doing” early in the lesson. This being said, it does not mean that boys should not be expected to listen. It only means that “rambling” is not effective teaching for boys in particular. Being clear and concise with instructions and getting boys to be active increases the likelihood that boys will learn.)
- have time-limitations (A child’s concentration span for listening and sitting is naturally low. Setting tasks that have time limitations and varying activities is a good way to keep boys’ attention and to limit their frustration at not being able to stay on task-sitting, listening or writing-for long periods of time. It lowers the boredom level and keeps children interested in the learning process. If boys know how long they need to concentrate it helps them to control themselves until the next activity where they may be doing something more pleasurable in their eyes.)
- have purpose and audience (One issue that especially interests boys is “why are we doing this?” Ensuring that activities have a purpose and audience is a motivator for both boys and girls and will make the learning meaningful. Students are more willing to work when they feel that the work is more than just something to keep them busy. For example, a letter writing exercise has more meaning and relevance when the letter is going to the principal thanking or imploring him/her.)
- be clear (Being simple and clear with instructions and expectations helps to ensure that boys both understand and will strive to achieve. Step-by-step instructions are especially useful. They should be displayed somewhere in the class so that children can refer to them as needed.)
- include humor (Keeping a sense of humor and making jokes every now and again, helps to get the children on your side and lessens the level of boredom. Allowing boys to use humor in their own writing and assignments also increases their interest and makes the learning fun.)
- be directed with progression (A sense of accomplishment through bite-sized chunks of work which progress in a definite direction give a sense of satisfaction without being overwhelming for students. For example a long writing, reading or math activity which is broken down into smaller pieces which move always to the final goal of a short story,

or a mathematical concept, or completion of reading a story, gives both a sense of direction and progression as well as ensuring that students enjoy the learning without getting bored.)

- include competition (Competition with others, with themselves, even with the teacher, is a good way to motivate boys to participate. But the competition like the other activities is more effective if it is used on short-term goals because it can keep the interest of the children. For example, a mathematics bingo would be short-term, reinforce learning and incorporate competition.)
- include group work, both small and large scale (Activities where students can sit and discuss ideas or read together or where longer term group projects are involved allows social learning which is both pleasing to students and allows immediate involvement through active participation.)
- include time for reflection (Reflection means sitting and quietly thinking for a moment which is not what boys enjoy doing most. However, just like listening it is a process that is important to practice in order to reinforce the learning and evaluate one's own progress. Spending a few minutes to reflect on the activity or learning objective is effective for both teacher and student.)
- include positive feedback (We all need feedback. Regular positive feedback should be often, immediate, specific and appropriately presented in order to be effective.)
- include modeling of written exercises (Modeling can be used before the exercise as well as after. It can be used in writing but also in other areas. Modeling helps boys to see where they need to go. Showing boys what they need to do and displaying exemplary work are both ways of modeling which can be incorporated in the classroom)

As mentioned earlier, Noble and Bradford (2000) point out that looking at boys' learning later rather than earlier may be too late. But it is not only Noble and Bradford which indicate that getting boys' achievement right from the outset is paramount. If boys enter school already disadvantaged the gap must simply widen with "barriers" such as curriculum, assessment, parental expectations, and what is actually needed now in the job market working against a boy's genetic/conditioned make up. Thus, it is that the research contained herein looks at the extent to which primary school teachers employ

gender specific methods to enhance learning. However, before moving on to the research it is necessary to identify two major types of teaching methods.

2.4. TEACHER-CENTERED VS. STUDENT-CENTERED METHODS

Teaching methods can fall into two distinct fields of thought: the teacher-centered approach or the student-centered approach. It could rightly be argued that in a teacher-centered approach there would be little room for a brain based-MI-VAK methods; that it would be difficult to incorporate methods which is friendly to any student. According to the work of Hirumi (2002), social psychologists vary in their approaches to how the mind acquires knowledge from the objectivist epistemology which indicates that reality is external to the learner to the interpretists who believe that knowledge is constructed. An alternative to these two epistemologies is pragmatism which states that reality is constructed within a social context but mediated by the learner's prior knowledge. The Italian primary school is an example of the objectivist who believes that knowledge is external to the learner. This belief is manifested in the teaching methods and assessment which is teacher-centered rather than student-centered.

Hirumi defines the traditional teacher-centered model as an approach where the “teachers serve as the center for epistemological authority, directing the learning process and controlling students’ access to information.” This model Hirumi claims was begun of necessity during the agricultural and industrial eras to increase the number of students receiving instruction from a single teacher:

Under this paradigm, students are treated as “empty vessels” and learning is viewed as an additive process with new information simply being added on top of existing knowledge. Instruction is geared to the “average” students and everyone is forced to progress at the same pace. Parents and community members may contribute to student learning, but rarely in any systematic fashion.

(Hirumi 2002, 505)

This model Hirumi contrasts with the belief that students are not “empty vessels” but that they come to class with their own perceptual frameworks and learn in different ways. Learning he says is a dynamic process “in which connections are constantly changing and the structure is continually reformatted. In short, students construct their own meaning by talking, listening, writing, reading and reflecting on content, ideas, issues and concerns” (Hirumi 2002, 506). He defines the student-centered environment as a place where students are given direct access to knowledge and work either as individuals or in small groups to solve authentic problems. Parents and community members, he says, have direct access to teachers and knowledge and play an integral role in the learning process.

In a chart Hirumi compares the two methodologies by analyzing the instructional variables of both teacher-centered and student-centered teaching and learning. Initially, he looks at learning outcomes saying that teacher centered ones are characterized by discipline-specific information, lower-order thinking skills and memorization of abstract and isolated facts, figures and formulas whereas the student-centered learning outcomes contain interdisciplinary information and knowledge, higher-order thinking skills such as problem solving and information-processing skills.

The next instructional variable outlined is goals and objectives which for teacher-centered means that the teacher “prescribes learning goals and objectives based on prior experiences, past practices and state and or locally mandated standards” whereas the student-centered goals and objectives would be where “students work with teachers to select learning goals and objectives

based on authentic problems and students' prior knowledge, interests and experience. When Himuri spoke of instructional strategy he said that the teacher-centered would be prescribed by the teacher, designed for the average student, organized and primarily presented by the teacher. When he spoke of the same for the student-centered approach he described it as the teacher working with the student to determine the learning strategy and pace in order to meet the needs of the individual student and s/he would be given direct access to multiple sources of information.

Assessment, in the outline for the teacher-centered approach, was used to sort students, usually paper and pencil exams, performance criteria set by teacher, student left to find out what the teacher wants; but, in the outline for student-centered the assessment was integral to the learning, performance based, students and teachers set criteria, students assess self and peers. Basically, the role of the teacher-centered-approach teacher was that s/he would organize and present information, control access to information, and direct the learning but the role of the teacher in the student-centered approach was to provide many avenues for students to access information, act as facilitator for access of information and for learning.

The role of the student is also different: The students in the teacher-centered approach expect teachers to teach what is required on the exam; they are passive recipients of information whereas in the student-centered approach, students take responsibility for their own learning and are active seekers of knowledge. The environment differs in that a teacher-centered one consists of students who sit in rows with information being presented through lectures, books and films whereas in the student-centered classroom, students work at stations with access to electronic resources.

The Italian primary school which was observed followed the teacher-centered model of education from the environment to the methods and assessment

(although the tests were often the oral versions of the written). Chapter Four will take a careful look at the history as well as the current set up of Italian education which will form a part of the findings of the research. However, before looking at the historical and modern day context, the tools to gather data for this research project will be considered in the following chapter.

CHAPTER THREE: RESEARCH DESIGN

The study itself can be divided into three parts: the historical analysis, the qualitative empirical study, and the statistical analysis. In the historical analysis the history of the issue of boys' achievement was explored. In the qualitative empirical study the data was gathered including the cultural research on the Italian education system. Finally, in the statistical analysis the findings are presented in view of the historical analysis and the qualitative empirical study.

Through the historical analysis, three elements have become clear. Firstly, boys are underachieving particularly in linguistic subjects. Secondly, boys' and girls' achievement in the classroom matters. Thirdly, teachers can do something to encourage children to access the curriculum and feel successful. It is from this premise that the research has sprung. The study asks the question, are teachers in an Italian state primary school employing methodologies which allow students to access the curriculum. In particular, the study considers if teachers utilize practices which encourage effective learning for boys.

This chapter looks at the methodology behind the qualitative empirical study and the way in which the researcher attempts to answer the question of the study. Firstly, thick description will be defined and its validity as a research tool will be measured against criteria set out by Wallace and Poulson (2003). Then the relationship between thick description and the case study will be explored including a look at how this qualitative methodology can help distinguish between an in-use theory as apposed to an espoused theory. And finally the chapter will look at the specific design of the study, its benefits and drawbacks.

3.1. METHODOLOGY

The research process itself includes several different stages and various authors have represented this process with diverse models which illustrate the stages of the process. When looking at the process it becomes clear that the initial moments of any research design include establishing a problem, identifying the conceptual framework, creating a research statement or hypothesis, deciding on methods of investigation and appropriate data gathering techniques, recording and analyzing the data and finally writing the report. These processes can be linear or circular moving back and forth between the stages and steps.

According to Gough (2002), research has varying definitions from experimentation and observation to measurement and statistics to surveys and interviews. He compares the Oxford English Dictionary definition to how researchers see themselves to the history of research approaches. He says that “in education we perennially address the practical problem of what should be taught and learned . . . where the emphasis is on making defensible decisions in specific circumstances rather than on constructing theoretic generalizations that are more universally applicable” (2). Gough quotes Wagner who claims that “ignorance is a better starting place than truth for assessing usefulness of educational research.” He says that “educational researchers often invoke truth and truthfulness-and related concepts such as validity and reliability-as criteria for judging research” (Gough 2002, 3). Perspective will influence how one sees the truth which in turn will affect the approach taken to data collection and interpretation.

Whether from ignorance or from an assumption, education and research must begin somewhere. When determining the effectiveness of research one must take into consideration the purpose of the research as well as the position and context of the subject and the researcher. The purpose of this research project

is to identify the teaching methodologies of some Italian state primary school teachers and to examine the extent to which these methodologies are gender specific. The methodology chosen is a form of thick description. Effectiveness of this kind of educational research and the methodology chosen will be judged using the criteria put forth by Wallace and Poulson (2003).

3.1.1. DEFINING THICK DESCRIPTION

The case study has its origin in thick description, a method of data collection whereby specific data is collected by a researcher from within a culture on that culture. Its aim is to gather information for the sake of itself. To do the data collection method justice, we must consider it by degrees.

Examples of the purest form of thick description can be found in the work of Geertz (1993) when he goes to places such as Bali or Morocco and lives amongst the peoples there in order to collect information on those peoples, the purpose being merely to increase understanding of the culture. He says about thick description that the purpose is not to change anyone or anything but merely to increase understanding of a cultural phenomenon which may at a later stage be generalizable or transferable to another intellectual project.

The qualitative researcher sees culture as something created and observation of this creation is paramount to the understanding of it. Thick description in its purest form can add understanding to the quantitative or is valid in and of itself for the qualitative researcher. The value of thick description can be seen when looking at the work of Wallace and Poulson (2003):

- Knowledge-for-understanding
- Knowledge-for-critical evaluation
- Knowledge-for-action
- Instrumentalism
- Reflexive action

(Wallace and Poulson 2003, 24)

They have used an adaptation of Bolam's model (1999) of projects to study the social world, which indicates that thick description adds new knowledge for the sake of itself in a pure but not faultless sense and can be useful in educational research simply to increase understanding when no action is necessary. This study falls under knowledge-for-understanding whose rationale is to "understand policy and practice through theory and research" (24) and has no underlying objective except to increase understanding. The purpose is merely to find out "what happens and why" (24) and is disinterested towards policy and practice but may be used at a later date to inform another intellectual project which could for example have the purpose of improving practice. However, through understanding, practitioners can move on to knowledge-for-critical evaluation where policy and practice are assessed. Action may even be a result for either the principal who manages the school or the teachers who administer the curriculum. It can also be useful when paired with other research to draw conclusions which can then be used for action-based purposes be it to evaluate policy or to improve practice.

Ethnography in its purest form fits into the knowledge-for-understanding intellectual project. Although one does not arrive at a project with no theoretical base, the purpose and mindset is one of openness to the situation without a preconceived notion which would guide the research methodology and data collection. As Wallace and Poulson note themselves, the published literature produced may be a reference in the associated policy literature for a target audience of policy makers, academics and practitioners on advanced education programs (24) which is the purpose of the educational research conducted in this study.

Holliday, Hyde and Kullman (2004) have used the data of thick description to explore cultural issues. They present the thick descriptions, deconstruct them and then generalize out from them. They describe thick description which is important for the understanding of their intentions:

Thick description as a term comes from anthropology and qualitative research and involves two elements:

- deriving meaning from a broad view of social phenomena which pieces together different, interconnected perspectives
- exploration, in which sense is made from an ongoing emergence of social phenomena, which may not immediately seem to connect, and which may indeed be unexpected.

(Holliday, Hyde and Kullman 2004, 8)

A possible example of thick description as a data collection method is the case study. In the case study a researcher uses thick description to collect the data about the subject and his/her environment. The “matter of degree” according to Gomm, Hammersley and Foster (2000, 101) is how much of a description should be included. All data collected cannot be useful; however, enough to establish transferability must be included to render the research useful:

The person who wishes to make a judgment of transferability needs information about both contexts to make that judgment well. Now an inquirer cannot know all the contexts to which someone may wish to transfer working hypotheses; one cannot reasonably expect him or her to indicate the range of contexts to which there might be some transferability. But it is entirely reasonable to expect an inquirer to provide sufficient information about the context in which an inquiry is carried out so that anyone else interested in transferability has a base of information appropriate to the judgment. We shall call that appropriate base of information a ‘thick description’.

(Gomm, Hammersley and Foster 2000, 40).

Gough (2003) writes about a Caribbean field study funded by the UK government’s Department for International Development. He looks at the effectiveness of the study in terms of Bolam’s model---the same one modified by Wallace and Poulson. Gough and the research team (a consortium from the University of Bath, King’s College and an environmental NGO, Field Studies Council) produced an intellectual project based on the knowledge for action aspect but as they note the project runs into the other categories.

But how useful and practical is thick description in this type of intellectual project? The notion of preconceived purpose and ideas in and of itself goes against the purest form of Geertz’s thick description which can be informed

but must be guided by the cultural information discovered not the asking of questions based on the research answers required. However, Gough and the team did use a combination of case study and problem-based methodology which could be considered a form of thick description.

On its own as data collection the nature of the data collected could actually be rendered less than useful in many cases because at the end the data is so specific and time consuming to gather that the knowledge gained from it brings into question its value as a research tool. In quantitative terms thick description may seem uselessly time consuming and valueless due to its overall data. The positivist would see the data as far too specific from which to draw conclusions and as a research tool it would not be replicable as indicated by Gough:

There are clearly problems with such an approach [naturalistic inquiry] if one considers that a research study should be replicable. Not only were the interviews impossible to replicate in practice (because of the impossibility of assembling the same individuals in the same places more than once), they were impossible to replicate in principle, since it would not have been possible to brief another researcher to conduct the same interview in exactly the same way.

(Gough 2002, 184)

The data itself can be lengthy and much of it can be irrelevant to the study. The whole of the thick description could actually be useless if not managed. In the final report, thick description would be so specific and lengthy that its actual significance to a wider body of knowledge could be lost. Therefore, thick description could be considered a useful way of generating questions when the problem is still unclear because from the data collected the researcher could then identify a problem and perhaps decide to determine if the issue is generalizable in broader terms. It even could be a way of generating a research statement or a hypothesis. Additionally, it could be useful when compared with other thick descriptions to draw conclusions, analyze or make recommendations.

Generalizations from the thick description to a wider group will make this particular study valuable. The thick description will be matched against the literature from other educational researchers which then makes the information transferable and possibly even generalizable. The practitioner will hopefully find the information valuable to gain insight into Italian primary education keeping in mind that not all information can be transferred depending on specifics of the academic setting and curriculum.

3.1.2. THE CASE STUDY

The question at hand (to what extent does an Italian state primary school use gender specific teaching methods) and the subjective nature of the project lends itself to qualitative analysis with case study (a form of thick description) being the most effective means to conduct the research. According to Creswell (2003) case study is a method in which “the researcher explores in depth a program, an event, an activity, a process, or one or more individuals” (15) and according to Knight (2002) it is “a study of one of something-an event, an organizational unit, a person, a site or whatever” (41). Knight notes some advantages of the case study which will indeed apply to this project:

1. do tend to be small-scale works
2. are not artificial like experiments and surveys
3. encourage investigators to work in depth, to really go beyond superficial research approaches
4. compel researchers to look for meaning and try to construct understandings, to learn what is really going on
5. should remind inquirers of the complexity and variability of the social world
6. can therefore be powerful antidotes to determinism and over-generalization
7. tend to be very human-very person centered

(Knight 2002, 41-42)

The case study could be considered a watered-down form of thick description and when used to support claims as in the work of Holliday, Hyde, and Kullman (2004), can be valuable as supporting details. Even in the work of Gough (2003), case study and problem-based study were paramount as data

collection methods to provide the necessary understanding from which to draw conclusions and make recommendations. Whether for intellectual purposes (critical analysis) or for action purposes (improvement), the case study is useful in adding depth to research. A necessary element is that enough data is recorded within the study to make the information transferable or generalizeable whether the study is for the sake of itself or for action.

3.1.3. USE OF THICK DESCRIPTION TO VERIFY CONGRUITY BETWEEN THE IN USE AND THE ESPOUSED

Observations can be valuable as verification of the researcher's interpretations as well as to verify each teacher's perception of his/her own behaviour. A closer look at the work of James and Jones (2007) explores this particular benefit of using thick description as a method of data collection. James and Jones show why and how they used observations in their study on change management. The study conducted looked at the affective domain during the change process at a secondary school for 1070 students from 11 to 18 years of age with 76 staff members located in Wales. The school leadership team had decided to implement a whole school classroom observation procedure through senior members of staff. The authors analyzed the change process through research methods of observation, interview, a questionnaire-based survey and a record of the change process kept by a participant observer. The results were then categorized according to the three main stages of the process: policy development, implementation and outcome.

The authors claim that the in-use and espoused theories are relevant to their interpretation of the data collected during the study. The distinction between the two is that both are theories of action; however, the theory in use is the one unspoken but the one which, nevertheless, guides behaviour while the espoused theory is the one which is used to explain behaviour to others:

When someone is asked how he would behave under certain circumstances, the answer he usually gives is his espoused theory of

action for that situation. This is the theory of action to which he gives allegiance, and which, upon request, he communicates to others. However, the theory that actually governs his actions is this theory-in-use.

(Argyris and Schon 1974, 6-7)

The two theories are not always congruent. There may be a gap between what is implicit and what is stated. It is for this reason that the observations were of paramount importance to the study and the data gathered from using this tool combined with the other data formed a clearer picture of the situation. No matter how precisely questions are phrased (which in and of itself could cause ambiguity) the answers are not always accurate since a teacher's espoused theory may or may not be consistent with his/her theory in use. Being able to identify the congruency of the espoused and the in use renders thick description coupled with other tools particularly valuable. In this research project the observations served a two-fold purpose: verification of the interpretations of the quantitative data and verification of the teachers' espoused and in-use theories.

3.2. THE SPECIFIC DESIGN OF THIS STUDY

Although the data collected in this study contain a mix of qualitative and quantitative information, the approach is qualitative in that many questions in the research were open-ended and the data is text or image based as opposed to a quantitative approach which can also employ questionnaires but the questions tend to be closed-ended with numeric data. One might argue that the research uses a mixed methods approach because both open and closed-ended questions can be found on the questionnaire and in the interviews; however, the data of the closed-ended questions and charts were used merely to establish predefined boundaries (Creswell 2003, 19). These boundaries according to Knight are fundamental:

A common difficulty is defining the boundaries of the case. This is seldom simple. Indeed, soft systems thinking says that the boundaries we choose to draw round a problem-the way we conceptualize and

define it-are fundamental to the findings we create. Change the bounds of the case and you are likely to be changing the research findings.

(Knight 2002, 41)

In Gomm et. al (2000) the difference between the case study and the survey is clearly stated and applicable. With regard to the case study they say:

The main concern may be with understanding the case studied in itself, with no interest in theoretical inference or empirical generalization. However, there may also be attempts at one or other, or both, of these. Alternatively, the wider relevance of the finding may be conceptualized in terms of the provision of vicarious experience, as a basis for 'naturalistic generalization' or 'transferability'.

(Gomm et al 2000, 5)

While they say about the survey that the "aim is empirical generalization, from a sample to a finite population" (5), it cannot be doubted that the researcher will not be a mere detached, positivist observer. The nature of the study includes the personal values of the researcher as well as the researcher's interpretation of the data which in many cases will be subjective rather than positivist. Nor is quantity of respondents a goal.

One of Creswell's models is particularly useful in explaining the process of this qualitative study which will employ an inductive logic pattern where theory becomes the end point for the study:

The researcher begins by gathering detailed information from participants and forms this information into categories or themes. These themes or categories are developed into broad patterns, theories, or generalizations that are then compared with personal experiences or with existing literature on the topic.

(Creswell 2003, 132)

Although it would appear that the qualitative study at hand might be deductive because the author began with a hypothesis or lens from which to measure or view the subjects, it is indeed inductive since information has been gathered and analyzed from open-ended questions, interviews and observations where the patterns and or themes have been identified and in the end measured

against the definition provided as well as considered within its historical context.

3.2.1. MATERIALS AND METHODS

After having explored the extent to which learning needs are gender specific in the literature review, the objective of the research was to identify the teaching methodologies of Italian elementary school teachers and to examine the extent to which these methodologies are gender specific.

However, these objectives were challenging. Firstly, one had to identify tools which would reveal the objectives. Secondly, some criteria are affective in their natures, not easily decipherable according to an external definition and perhaps influenced by external factors in the research. As James and Jones (2007) pointed out in their study “researching affective experience can be fraught with difficulties.” This they say is due to emotions which can flow internally (hidden feelings) or between subject and researcher (exchanges of emotion, not always consciously) (4). Finally, entering into a state institution in Italy was in and of itself difficult.

3.2.2. THE SCHOOL, ITS BACKGROUND AND ACCESS

The study was carried out among three 5th grade classes in an Italian state primary school located in northern Italy in the Piedmont region 15 minutes outside a major metropolitan area. The local community is mostly rural, with inhabitants of either blue or white collar jobs. A small number of inhabitants either own private shops in the town or small farms on the outskirts of town and a larger number of inhabitants work in factories. The town is considered middle class with most local families, no matter their status, sending their children to the state school until the end of middle school. Once students get into high school, parents select appropriate schools based on factors such as scientific or linguistic majors, location and cost. At the age of 14, students

can already drive a 50cc motorbike or take public transportation on their own; therefore, location becomes less of an issue. Upper middle class families often choose elite high schools in and around the major city in the area. For primary and middle schools, local state schools are the most frequent option.

The primary school chosen was selected because of issues related to access. Studies within a state school are not common and permission for an outsider to enter is rarely granted. The process for acceptance includes an introductory meeting with the principal, a formal letter written to the board of directors (consisting of the principal and elected parents), and a vote taken by the board of directors. Being a part of the local community, the researcher was known to the board of directors and a certain amount of confidence and trust had already been established which resulted in a positive vote for the study to be conducted. (This was not the case for an Italian researcher who had applied to the school the previous year.)

The total number of students in the 3 classes observed was 68 while the total number of teachers was 9. The school serves the general population of a small Italian town where most of the students live or where the parents work. In the winter of 2008 the principal and board of directors of the school was approached and both indicated willingness to participate in the study contingent on two elements: observations were not to last longer than three weeks and classes were not to be disrupted. The principal, board of directors and teachers agreed that the teachers could answer a questionnaire and that the researcher could observe without participation in the three classrooms for a period of three weeks.

3.2.3. PARTICIPANTS

All teachers were of Italian origin with most students also of Italian origin. Less than 10% of the participants were not Italian. Class teachers had a minimum of 10 years teaching experience.

3.2.4. PROCEDURE

In order to get clearer ideas of behavior as well as a deeper analysis of classroom procedure including a differentiation of the in-use and espoused theories, three tools of data collection were used:

1. Self-administered questionnaire. Advantageous because it provided information about the affective realm and was best at surveying and generalizing (Knight 2002, 89) allowing the researcher to ask for the teacher's perspective of what happens in the classroom which could then be measured against the observations.
2. Interview. Better than questionnaires at exploring issues in depth. Nuances could be captured which would be missed in a questionnaire and questions could be clarified and adapted (Knight 2002, 89). Teachers were more willing to talk about the class, the method, the school than to write about it.
3. Observations. A fundamental tool which allowed the researcher to verify the information from questionnaires, data charts and interviews.

The questionnaire and data chart

The objective of the questionnaire and the data chart was to find out if the teachers to be observed believed they employed methodologies which are gender specific. The criteria which was discussed in Chapter Two was used as the research instrument to measure the level of what the researcher believed to be "boy friendly" albeit all-round good practice. These optimal lessons should:

1. include a range of teaching styles including the kinesthetic
2. have teachers talking less and students doing more
3. provide a sense of relevance including purpose and audience
4. have clear objectives, learning outcomes and assignments
5. include humor
6. be directed with progression
7. include competition
8. include group work
9. include time for reflection
10. include positive feedback
11. include modeling especially of written exercises

The two investigative tools were used to find out what drives the teaching of the teachers observed, what differences teachers perceive to exist between the way boys and girls learn, what teaching methods were believed to be more effective (for girls, for boys), if teachers attempted to accommodate the learning styles of different students, if students achieve their potential, and finally to find out if boys or girls seem to fair better in the assessment of the learning objectives.

Before the study began, a draft of the questionnaire (see Appendix A) was presented to an Italian teacher from another school to ensure the accuracy of language. Some of the questions were syntactically corrected and diction was improved. A pilot questionnaire was then presented to two Italian teachers also not from the participating school. Upon seeing the responses, some of the questions were reformulated and then they were distributed to the teachers at the participating school.

All teachers were given a copy of both a questionnaire and a data chart (see Appendix B). The data charts were compiled by a team of teachers (in the same way as a report card is compiled) while the questionnaires were responded to singly. The materials were introduced and distributed to the teachers during a recess. Teachers had two weeks to complete the questionnaire and data chart at which time the observations would begin. During the observations, teachers were informally interviewed at recess times to gain clarity on their responses to the questionnaire and to gain understanding of the procedures of the school.

The questionnaire

The questionnaire, related to the affective domain of the assessments, asked quantitative questions such as the total number of boys, girls, students in the class, number of notes written in the diary for missing homework (per

girl/boy), number of notes in diary for poor behavior (per girl/boy), number of students failed in the group (per girl/boy), number of students failed during the career of the teacher (per girl/boy). The teachers were also asked to identify how long they had been teaching. The affective questions asked teachers to identify their main goals, their methods of achieving those goals, the effectiveness of methods with girls, the effectiveness of methods with boys, if girls achieve their potential, if boys achieve their potential, if there has been a change in the last five years with regards to the way girls and boys learn, if there has been a change in the last five years with regards to boys and girls motivation to learn, if there has been a change over the last five years in the achievement levels of boys and girls. (The five year period was used because the same teachers teach the same students for five consecutive years.)

The data chart

In order to identify quantitative information with regards to the assessment of the students, both girls and boys, statistical information was needed; thus, a data chart was compiled by teachers. The data chart asked teachers to compile the marks that boys achieved and that girls achieved in the various classes during the first term: Italian, English, history, geography, maths, science, computers, music, art, PE, civil conduct, behavior, religion. The possible marks ranged from “ottimo” which was the highest to “insufficiente” which was the lowest.

Although the data chart and the questionnaire were provided in Italian and were tested on a sample, some difficulties in interpretation caused the questions to be less effective than would have been hoped. However, the interviews allowed for clarification and extension of the responses.

The interviews

The interviews with the teachers elaborated on the above questionnaires, the data charts and the observations from the classroom drawing together the data

of the three to determine the extent to which the teacher's methodologies were gender specific. The interviews were conducted during the designated time of observations at recess. The availability of teachers and necessity of clarification dictated the schedule and length of the interviews. Questions asked during the interviews which were conducted near the coffee machine in the hallway or in the "sala di convenio" which was a bit quieter included those about clarification of the questionnaire or clarification on school procedures and were addressed to whichever teacher was available to talk. All of the class teachers were interviewed informally as well as the teacher of religion, the teacher of geography and one of the teachers of English. The questions asked of each teacher varied but were among the following:

- How do teachers feel about changing levels every year?
- Who supervises the teachers' work?
- Is the teaching method dictated by the principal or by the state?
- Do teachers participate in on-going professional development? Is it mandatory?
- What documentation of class work exists?
- Are all three classes working at the same pace and on the same elements of the curriculum?
- Do students work in groups?

Observations

Classroom observations began on a Monday and continued for a full week from the opening of the lessons until students were dismissed for lunch. Each teacher would be observed according to the lesson which the teachers felt would be most interesting for the researcher to observe. The observations were allocated in a way that each class teacher was observed on several occasions while the specialist teachers were observed at least once.

3.2.5. DRAWBACKS OF THE STUDY

The study attempted to identify, based on the researcher's definition and the data gathered, the teaching methods of an Italian primary school and the

extent to which that teaching methods was gender specific. Because the school chosen was a state institution, the teachers, parents, and principal were cautious with regards to the classroom observations. Firstly, permission from the principal was gained but he placed the onus on the governing body which consists of teachers, elected parents and himself. The principal was helpful and interested in the study and even wrote the letter which had to be presented to the governing body. The governing body accepted the researcher's proposal to observe in the classroom contingent upon the fact that the lessons were not disrupted.

The drawback to the study's design was that it was not easy to be admitted to do the observations and the time in the classroom was limited. As mentioned earlier an additional drawback was being able to ask questions which were culturally comprehensible in order to obtain the data which was necessary for the study. This limitation was largely due to the researcher's own cultural and linguistic limitations. This obstacle was overcome through Italian friends and colleagues who were able to help with wording and cultural questions which arose during the study. However, having a relationship with the subjects did give a personal touch to the study which encouraged responses.

Qualitative research has its pros which can also be seen as its cons. Creswell (2003) identifies the practices of qualitative research which discuss both the strengths and weaknesses of the method:

- The researcher positions himself or herself
- Collects participant meanings
- Focuses on a single concept or phenomenon
- Brings personal values into the study
- Studies the context or setting of participants
- Validates the accuracy of findings
- Makes interpretations of the data
- Creates an agenda for change or reform
- Collaborates with the participants

(Creswell 2003, 19)

It is these characteristics which will reveal or conceal information in any study. Its usefulness will be in its generalizability to other situations locally or internationally. As James and Jones indicate about their own study, “the approach can help those who work in schools to understand and improve their practice” (15) which is a satisfying goal indeed. The following chapters will describe the findings of the qualitative empirical study at hand. The historical context of education from around the world focusing specifically on the United Kingdom and the United States comparing those contexts to the Italian historical and modern day perspective will be presented as a finding in and of itself in the next chapter with Chapter Five completing the statistical analysis of the research.

CHAPTER FOUR: HISTORICAL AND CULTURAL CONTEXT

Schools are a reflection of the beliefs, ideals, goals of a people and their culture (Miller 1990). To understand today one must begin by looking at the past. It is the goal of this chapter to explore the international context of education both historically and modern day. Through this a clearer perspective of the Italian classroom can be achieved but it is also through this look that the initial findings of the study are presented. In fact, the Italian primary classrooms observed showed the characteristics of the United States and Great Britain in the 1970s and characteristics of what Hirumi (2002) claimed was an industrial or agricultural era. This chapter first explores British education yesterday and today, then that of the United States and finally does the same for Italian education pointing out the similarities and the differences. The final portion of the chapter takes an in-depth look at the specific context used in the study which according to Geertz's (1993) definition of thick description could be included among the initial findings of the study.

From as far back as William Shakespeare in 1599 or John Locke in the 1600's boys have been noted as being "resistant" to education or schools have been seen to "fail" boys in one way or another. West (2002) quotes Shakespeare's character Jaques as the character notes the seven stages of a man's life in *As You Like It*. In his monologue Jaques characterizes one stage: "And then the whining schoolboy, with his satchel, and shining morning face, creeping like snail unwillingly to school" (West 2002, 1). In his treatise *Some Thoughts Concerning Education* from 1693, John Locke claims that schools were failing to adequately teach writing and speaking skills to boys (Skelton 2001, 12). Later Dumas in the 1800's says, "It is only rarely that one can see in a

little boy the promise of a man; but one can almost always see in a little girl the promise of a woman” (West 2002, 1).

4.1. BRITISH EDUCATION

To set the stage for her book, Skelton takes a thorough look at how education developed in England throughout the years. She outlines the ways in which schooling has, historically, been informed by gender. She begins by looking at the relationship between economy, culture and politics. According to Skelton the pre-Victorian era schools were expected to promote manliness (12) but it was not until late Victorian England that mass education began. Upper and middle class boys received some kind of formal schooling in public boarding or day schools or through private tutors and governesses although the working class boys’ education was much less reliable (Skelton 2001, 13).

From the 1870s to the early 1900s the prevalent discourse of education was inequality of opportunity which was informed by gender and social class. This meant that education was influenced by boys’ public roles and girls’ domestic roles. With the Forster Act 1870 came mass state schooling for all children aged 5 to 10 while it only became compulsory in 1880 and free in 1891 (Skelton 2001, 13). Distinctions in education were still made between boys of different social classes (middle-upper received instruction on sports, prefects, Latin, literature and science while working class received instruction in basic numeracy, literacy and technical skills). Additionally, the girls’ curriculum in both middle-upper and working classes was geared toward the domestic; however, middle-upper girls were instructed on how to be pleasing wives while the working class girls were taught domestic duties (Skelton 2001, 14).

In the 1920s and 30s the prevalent discourse was “different but equal which meant that differentiation was implemented on the basis of social class,

natural skills and abilities. In the 1940s and 50s the focus was on IQ testing and equality of opportunity based on intelligence. In 1944 the Butler Act provided compulsory free secondary education. According to Skelton who quotes Gipps and Murphy (1994) the act was meant to provide working class with more opportunities. The various schools were grammar, technical and secondary modern. A student was allocated a school based on his/her intelligence:

Although the tripartite system of grammar, technical and secondary modern schools was intended to eliminate social class divisions (as all three types of schools were supposed to be seen as equal but specializing in different areas) it actually reinforced social divisions as the academic grammar schools were seen as having higher status. Gaining entry to the more prestigious grammar schools rested upon a child's performance in the 11-plus examination. At this time boys were seen as 'late developers' and to accommodate their later (and greater) potential, the majority of local education authorities provided more grammar school places for boys. The consequence of this was that girls had to score more highly in the 11-plus examination than boys in order to secure a grammar school place.

(Skelton 2001, 15)

The 1960s and early 70s placed emphasis on the working class and male disadvantage which was again equality of opportunity but through mixed ability and process. In the 1960s and 70s there was a move toward comprehensive secondary schooling which was meant to adjust the "educational disadvantages experienced by the working class through the tripartite system" (15). However, subjects for girls and boys still were not the same.

The 70s and 80s was again focusing on equality of opportunity but in relation to gender, race, disability and sexuality with particular emphasis on the female disadvantage anti-sexism. Finally, the late 1970s and 80s saw the passing of the Sex Discrimination Act which addressed the inequality experienced for girls.

It was during this time that the early underachievement of boys first became evident as large-scale studies of children's achievements at primary school pointed to the fact that, with the possible exception of mathematics, girls consistently outperformed boys (Gorman et al. 1988). This was a feature of primary schooling which had long been known (see Douglas 1964) but did not become the issue it was to become in the late 1990s because, in the same way that more boys' grammar school places were made available, it was assumed that boys would 'catch up' at secondary school.

(Skelton 2001, 16)

In the late 1980s and early 90s choice, vocationalism and marketization found its place with an emphasis on femininities and masculinities. From the mid-1990s to present the prevalent discourse has been on school effectiveness and improvement with interest again with the male disadvantage

The gender specific research of this time showed as many differences between sets of boys and girls as between the two genders. What did become clearer was that teachers did seem to be affected by gender in their teaching:

Research evidence from this period, where the focus was on identifying gender differences between boys and girls showed that, generally, some boys received more of the teacher's attention, occupied more physical space in the classroom and playground, and were more likely to take 'risks'... Studies into teacher attitudes indicated that many teachers were influenced in their dealings with pupils by gender specific preconceptions whereby 'proper boys' were seen as dominant, demanding and difficult but rewarding to teach.

(Skelton 2001, 16-17)

The educational reforms and policies of the late 1980s and 90s focused on the equality of opportunity for girls and boys but inasmuch as they were individuals. This trend meant that in terms of research into gender boys and girls began to be considered not as homogenous groups but as individuals with differences being explored between males and females (Skelton 2001, 17).

4.2. AMERICAN EDUCATION

The historical background of British education shows a strong link to the progression of education in the United States although the purpose perhaps was different. The American system of education evolved to fit the needs of the American dream. Miller (1990) exemplifies this showing how education throughout the history of the United States has reflected the beliefs, the needs, the ideals of the American culture:

I argue that education is wholly guided by a dominant culture, a worldview, a particular 'consensus consciousness' which dictates what are and what are not appropriate and acceptable ways of thinking and living. This worldview may be characterized by five themes--- conservative Protestantism, scientific reductionism, restrained democratic ideals, capitalism, and nationalism . . .

(Miller 1990, 56)

Education due to its purpose is a reflection of societal goals which will also be evident when the historical background of the Italian educational system is explored. The American system has been heavily influenced by religion, particularly protestant beliefs whereas the Italian system has been heavily influenced by socialism. According to Miller, American schools were started in the first place to instill religious values and to stifle the "evil nature of man." Beane (1990) records the same beginning:

Not only was intellectual ignorance to be eradicated through the school, but moral ignorance as well. In a society in which Calvinism was an ascendant feature, children were viewed as innately evil and their bad behavior, or 'sins,' as a step on the road to death and damnation. Moreover, children were seen as miniature adults who, regardless of age or development, were to assume adult morality codes and conduct themselves accordingly, or suffer the consequences. That morality was religious morality, and it was as deeply etched in the life of the school as in the community.

(Beane 1990, 17)

According to Beane, emphasis on religious beliefs continued well into the 1800s at which time there was a transition from religious instruction to moral

instruction, simply a more secular version of its ancestor. During the late 1800s and early 1900s, America saw a massive influx of immigrants as well as an industrial revolution. The schools reflected these changes in American society. Economic factors were also a major influence on public education. Schools became training for future jobs in factories. As industrial leaders saw the need for an educated labor force, compulsory secondary schools were developed to provide skills but also to instill an appropriate work ethic. Clark (1997) summarizes well the purpose of the American classroom:

Faced with challenges of geographic and industrial expansion, public education was designed with two goals in mind: to Americanize the immigrants who flocked to our shores and to provide industry with a skilled workforce. What better way to train children to sit in rows or cubicles, to be on time, not to talk back, and to let somebody else grade you than to design schools that resembled the factories in which those children would someday work.

(Clark 1997, 9)

These are the beginnings of education but as Americans became concerned about equality, these issues were also reflected in the system. In the 1600s the first schools and colleges were established for boys destined for leadership positions with the purpose of education to further Puritan religious beliefs. The first two institutes of higher education were established and public education for reading and writing began. During this time John Locke's work was highly influential focusing education on the importance of developing a work ethic. In the 1700s the European Enlightenment began to influence prominent colonists and ultimately education. Secularism, science and human reason began to clash with religious dogma. In the 1800s public high schools came onto the scene, the first college for women was founded, the beginning of mandatory school attendance was seen and land grants were given for higher education. In the early 1900s IQ tests were developed and the evolution versus creationism controversy began. The mid-1900s saw the lower and middle classes beginning to attend college, separate but equal facilities were declared unconstitutional, increased funding for scientific

research and science education were granted, and formal prayer and Bible reading was banned from public schools. In the 1960s civil rights and equality became paramount, the student-centered classrooms were born, grade inflation occurred to save male students from being drafted. In the 1970s there was a focus on discrimination based on sex or special educational needs. In the 1980s the home schooling movement gained momentum, and silent, voluntary prayer was banned from schools. In the 1990s the first charter schools appeared as well as the common curriculum and statewide testing. In the new millennium, teacher accountability is the focus, the No Child Left Behind Act penalizes schools for inadequate progress and more funding for low and middle income students is available to aid graduate studies (Sass 2008).

The progression of American education is similar to that of British education in terms of the movements toward equality for the sexes, races, classes and the learning disabled. The importance of these movements will be seen when Italian education is explored as well as when the findings of the research is revealed. Particularly significant is the fact that education is a reflection of societal goals which is seen in the history of both North America and Britain.

4.3. ITALIAN EDUCATION

Italy is a country bountiful in history, art and fashion. It is a world capital for traditional values and a way of life which in most western countries has been squelched by the power of big corporations. Although Italy has her share of monopolizing companies such as Fiat, Olivetti, Telecom, multinational corporations have yet to overturn her society. Italians are slow to change which can be seen as a weakness or a strength. However, the newly re-elected Italian Prime Minister, a wealthy Italian entrepreneur, is trying to promote the neo-liberal philosophy which will gradually change Italian

values, life and even education. However, it has not done so yet as we will see later.

The following section will be divided into Post-World War II Italy (because it affected the organization of Italian education), Post-World War II Italian Education, and Today's Italian Classrooms. In this way, the reader will have the essential background knowledge to understand how the findings of the research although surprising initially, actually make sense historically.

4.3.1. POST-WORLD WAR II ITALY

To understand modern Italian education one must begin with Italian history during and after World War II. With Mussolini in charge and siding with Hitler, Italians at first were pleased with their gains through Fascism but quickly realized that the Germans demanded a high price for their military assistance. By 1942 the outlook was gloomy: Mussolini had already declared war on the Union of Soviet Socialist Republics and the United States. Troops abroad suffered serious losses while at home the Italian people also suffered an impoverished winter: little fuel, little food. In 1943 Mussolini and the Fascist government were ousted and Italy surrendered unconditionally to the American and British Allies. The conflict continued for two additional years but eventually Mussolini and at least 1,000 of his followers were executed.

In 1946 Italians voted to become a de facto republic. The king and his family were expelled. Communism and socialism became the new dominating forces in Italian politics. Governments have come and gone but the ideology of collectivism and a common good is prevalent throughout Italian society which can be seen in her health care system, the strength of the workers' unions and compulsory, free education where all Italian citizens are required to attend an educational institution approved by the state until the age of 15. The government guarantees this education, free and equal for all.

Firstly, in Italy, health care is a citizen's right. According to the European Industrial Relations Observatory, the Italian, national health service was created in 1978 and based on a universal model meaning that every Italian citizen has a right to health-care services. These health-care services are subsidized heavily by the state; therefore, all citizens regardless of their incomes have a right to a state-run, state-subsidized service.

Secondly, in Italy, every citizen has the right to work. The first article of the Italian constitution states that the republic of Italy is founded on work (Sverige 2001); thus, many Italians interpret this to mean that citizens have a right to work. The basic assumption underlying article 18 of the labor legislation is that no worker may be fired without justifiable, provable cause.

Finally, free, compulsory education is another example of the underlying socialist beliefs of Italian society. All Italian citizens are required to attend an educational institution approved by the state until the age of 15. The government guarantees a free and equal education for all. Italian education is based on articles 3, 33, and 34 of the constitution: the free and compulsory development of culture, art and science for at least eight years (Archer 1992, 169). This underlying socialist philosophy in all three areas is reflected in the Italian classroom as will be seen later in the research conducted.

4.3.2. POST-WORLD WAR II ITALIAN EDUCATION

As in so many other systems in the world, the Italian education system under fascism was meant to "reproduce" the ruling class both culturally and ideologically (Mignone 1995, 169). Postwar Italy insisted on a new system. Pre-war education was meant to establish a well-trained minority while the postwar system began organizing the school system more democratically.

At the end of World War II, school buildings were damaged and destroyed. The remaining classrooms were too few and too poorly furnished for the numbers of students attending. Yet, rebuilding the education system was essential to establish a “common level of education” because, as of 1951, 10% of the population was still illiterate (Mignone 1995, 169).

The result of these reforms was compulsory, secondary education until the age of fourteen and the establishment of a single system of middle schooling. The reform established eight years of compulsory education and was an attempt at greater social justice through equality for every student at the beginning of their educational careers. These reforms “opened the road to demands for mass education beyond the eighth grade” (Mignone 1995, 171). After middle school some students opted for a secondary school which would prepare them for an immediate job while others would attend a “liceo” which would prepare them for university.

Eurybase (2003) documents the progression of Italian educational reforms from 1859 when the Casati Law was passed requiring compulsory education from grades one through four in Piedmont (the northern region of Italy). In 1861 was the Unification of State which extended the Casati law from the north of Italy to the whole of Italy. In 1923 the Gentile reform extended Primary education to five grades with an additional three year course. In 1928 primary schools were reorganized with the Testo Unico which meant that a three-year lower grade and a two year higher grade were established with an examination between grades. In 1933 public primary education fell under the province of the state. In 1955 decree 503 creates a new curriculum in primary schools which is not implemented until 1985. In 1957 law 1254 grade division were divided into cycles first and second then third through fifth with the removal of examination in-between. In 1971 Law 820 introduced supplementary activities, the extended timetable to afternoon and the presence of more than one teacher in the same class. Educational objectives were

intended to stimulate interests of pupils and to develop their personalities. In 1973 with law 477 parents and students began participation in the planning of school activities. In 1977, law 517 introduced cultural and social changes in the system which included emphasis on team work among teachers and a change in the method of planning, monitoring and assessment of students. Handicapped students were also integrated into the classroom. In 1985 the DPR 104 introduced the new curricula for primary education. In 1990 law 148 began modular organization with three teachers for two classes or four teachers for three classes and the gradual introduction of a compulsory foreign language.

From the reforms mentioned one can see the movement from minimal compulsory education (four grades in Piedmont alone) to an education which is obligatory but also includes student and parent involvement more than in the past. One can also see the rate of change, e.g. in 1955 reforms in curriculum were approved but not implemented until 1985. Nevertheless, these reforms bring us up to 2003 where Moratti introduced additional reforms.

A comparison between the British, American and Italian histories show a similar progression of ideals although differences are present. The chart on the next page allows a simplistic yet revealing look at the three educational systems:

	BRITISH	AMERICAN	ITALIAN
1850-1900	Mass state schooling	Mass state schooling	Mass state schooling
1900-1950	Movement from separate but equal to equality according to intelligence	IQ tests developed, separate but equal facilities legal	Primary education falls under state domain
1950-1970	Equality of opportunity especially for male working class	Separate but equal declared unconstitutional, lower and middle classes attend college, student-centered classrooms	Revision of state curriculum (not implemented), concept-based didactics
1970-1990	Equality of opportunity irrespective of gender, race, disability, sexuality, etc., national curriculum	Equality of opportunity irrespective of gender, race, disability, sexuality, etc., homeschooling movement begins	Introduction of supplementary activities and teachers, implementation of curriculum of 1955, increased parental involvement, integration of handicapped students, opportunity in high school based on ability, innovation in the classroom
1990-present	Choice, marketization, school effectiveness and improvement	Common curriculum and statewide tests begin, teacher accountability	More teachers per class, compulsory foreign language, focus on choice and equality of opportunity

Figure 2

The comparison shows that all three countries introduced mass education before the 1900s. Britain and the US were particularly concerned with equality in education in the mid 1900s while the Italian focus was on a curriculum created and distributed by the state to ensure the opportunities of all children were “socialized” like the medicine and the social security benefits. All countries saw the increased involvement of parents and student

choice in education however, while Britain and the US were focusing on teacher accountability, testing was decreasing in the Italian system particularly with the most recent reforms.

4.3.3. PRESENT-DAY ITALIAN CLASSROOM AND CURRICULUM ORGANIZATION

Pre-Moratti reforms

UNIVERSITY		
STATE EXAM		WORK
HIGH SCHOOL-ages 14 to 19 TWO COMPULSORY YEARS IN ONE OF THE THREE SCHOOLS	TECHNICAL INSTITUTE-ages 14 to 19	PROFESSIONAL INSTITUTE-ages 14 to 19
5 YEARS	5 YEARS	3 OR 5 YEARS
CLASSICAL SCIENTIFIC LINGUISTIC	LAND, INDUSTRIAL OR AGRICULTURAL SURVEYING ACCOUNTATNT	HOTELIER AGRICULTURAL SPECIALIST
STATE EXAM		
MIDDLE SCHOOL- ages 11 to 13- COMPULSORY		
3 YEARS		
STATE EXAM		
PRIMARY SCHOOL-ages 6 to 10-COMPULSORY		
5 YEARS IN 2 CYCLES		
NURSERY SCHOOL-ages 3 to 5		
3 YEARS		

Figure 3

At the age of 6, as can be seen in the table above, children become students. Compulsory education begins with first grade in the primary school. This five year stage is broken down into two cycles. The first two years focus on teaching students to read, write and on basic mathematics. The final three years also include subject material such as: history, geography, science, and a foreign language. These subjects are added to the basic curriculum of Mathematics, Italian, Music, Physical Education and Religion (optional

participation). It is during this second three years of primary school that rote memorization begins. Knowing the facts (not necessarily understanding them) is all important in the Italian system. Other types of intelligence, other learning styles are not often recognized as was evidenced through the class observations. Before the Moratti reforms a state exam would be administered by the school after the completion of Year 5 in primary school. Upon successful completion of the exam students were awarded a certificate which allows them to continue on to middle school. Since the Moratti reforms the formal Year 5 exam has been deleted although the Year 5 class that the researcher observed still participated a year end logic exam for “placement” in the middle school.

Middle school is for students between the ages of 11 and 13. This three-year stage includes the compulsory subjects of Italian, history, geography, science, mathematics, technical studies, physical education, religion (optional), art, music and one or two foreign languages (usually French or English). The purpose of middle school is to give all children the possibility to choose a professional job or further education. This stage is also set up more along the lines of the secondary school in that students have various teachers instead of two or three which follow them for the entire stage. At the end of the three years of middle school, students must pass another state exam which this time is conducted by external examiners. Upon successful completion of this, students are awarded a certificate which enables them to pass on to secondary school. The “terza media” exam is an important bureaucratic document for every Italian citizen. It allows one to apply for a driver’s license or to go on to high school or technical college.

The secondary stage of the educational system was divided into three different categories. A student who intended to continue on to university would probably have chosen the “liceo” where s/he would follow one of three programs: classical (Greek and Latin), scientific or linguistic studies.

Otherwise, a student would choose a technical or professional institute. In a technical institute, students study subjects such as surveying or management. In a professional institute, students can choose a 3 or 5 year program studying subjects such as hotel management or agricultural specialist. At the end of the three years, students go into the job market. Instead, a five year program prepares the student for further study at the academic level as does the technical institute. The three year program gives the student a minimal qualification. While the five year programs require the student to pass a state exam to terminate the stage and allow him/her to continue to higher education.

The Moratti Reforms found in Appendix C (reprinted from the Italian Ministry of Education) implemented several reforms. Beginning with nursery school or “Scuola dell’infanzia” as it is named on the document, the entry age of children changes from 3 years to 2.5 years. This also changed the entry age into primary school. Children are permitted to enter first grade at 5.5 years of age instead of 6. At middle school level the year of the “scuola secondaria di I grado” is now a preparatory year for the “secondo ciclo.” Secondary school, however, has been changed drastically if compared to the pre-reform table. The previous system was composed of the “liceo,” the “Istituto Tecnico” and the “Istituto Professionale.” After the reforms, secondary school was divided into two paths: classical high school and professional instruction with the possibility to pass from one path to the other importance being placed on the connection between work and studies particularly in the professional institute. From either path students may decide to continue on to university which shows flexibility previously inexistent. Entrance is contingent on passing the state exam.

From a curricular point of view the reforms perhaps penalize boys especially according to the work of Wilson who points out that boys need more time to develop in maturity for the most productive learning of reading and writing. However, the Moratti reforms have allowed for more flexibility at secondary

level and called for more Information Technology in the timetable (although in the primary school observed by the researcher that consisted of only 9 computers and 2 hours per week) both of which would be positive for boys.

Otherwise, the school routine remained relatively untouched. Each class has a group of teachers which follows it for the five years of primary education. For example, three sections of the same level may have four teachers. Each teacher has a specialization that s/he teaches to the classes. For example, within the team some teachers will specialize in language while others will do so in the sciences. Each class or section has a main teacher who has more teaching hours with that class and who is also responsible for communication with parents. The teacher who is not responsible for a class will attend to the children who stay in the afternoon for full-time school. This team of teachers follows its group of children for the five years of primary school. They meet once a week after school to systemize their lessons. Thus, on any day any of the classes in this team will have identical homework. They will have covered the exact same material for any given week or even lesson.

Another interesting element of the Italian primary school is the practice of “tempo pieno” (full time) or “tempo modulo” (part time). Both groups of children attend school until 1 p.m. and on Mondays and Wednesdays stay until 4.30pm. to avoid attending on Saturdays which is the practice of some schools. On Tuesday, Thursday and Friday, the part-time students are dismissed at 1pm while the full-time students stay at school completing their homework. Therefore, the part-time students also have two hours of homework to keep them busy just like the students from the full-time classes.

The administration of a school is another element of particular interest. One principal may have five schools or more to run varying in size and levels. For example, the principal of the school observed in Piemonte is in charge of two nursery schools, two primary schools and two middle schools. The primary

school observed, in and of itself, has over 250 students. The janitors act as door monitors for security as well as to keep the children in line, direct visitors and make photocopies for the teachers. Otherwise, the schools have no lead teachers. In the nursery schools, every year a different teacher takes on the responsibility of organizing the necessary materials, etc. The role is rotated yearly and does not include a pay rise or additional hours in which to perform the duties.

Unlike ten years ago when primary teachers were graduates of a professional high school and middle and high teachers had subject specializations from university but no teacher training, all teachers are now required to achieve a bachelors, a teaching specialization and to participate in an internship program.

Without a doubt education is a reflection of a society and its peoples. This has been exemplified in the historical perspective of the Italian system as well as that of the United States and of Great Britain. The comparison points out both similarities and differences in the goals that education attempts to achieve. The role of equality between the sexes has not been particularly significant in the Italian educational reforms whereas it played a significant role in shaping education in other countries. However, it must be noted at this point that the espoused and the in-use theories from the school and teachers observed were not consistent.

4.3.4. ESPOUSED THEORIES VS. THE IN USE

The espoused theory was equality for all students. The theory in use instead was a leniency toward the boys which revealed a cultural bias not anticipated in the research project nor accounted for in the historical perspective. A closer look at the school's parent information leaflet and the statistics drawn from the questionnaires and data charts will reveal this fact.

Parent information leaflet

In the leaflet which is distributed at the beginning of each academic year to every parent and student, the school claims the following:

It is to be hoped that between school and family, educational agencies which are so important for the development of students, relationships will be built on collaboration and mutual respect which will favor a efficacious formative journey for the measure of every child. Following clear common objectives means sharing essential principles for the good of the functioning of the school as an open service catered to the children, the families and the teachers.

According to the leaflet, the teachers follow the national curriculum for ‘I Piani di Studio Personalizzati’ from 2004 which requires the teachers with their individual methodologies to ensure that:

- The development and assessment of the autonomy of the child recognizing each as an individual with his/her own cultural and experiential baggage.
- Education of intercultural, interracial and democratic cohabitation
- Education of communication and creativity
- Environmental education
- Mental and physical health
- Safety education

The reading of these objectives constitutes the base from which the development of the mental potential, social and emotional relationships is derived. The contents that the school must transmit is available in the annual elaboration by colleagues at the beginning of the scholastic year and in the individual periodical planning by teachers as is set out in the state curriculum for primary schools in 2004. The program takes into consideration the educational needs of the region and the needs evidenced by the student and can be modified as is necessary. The annual program, in base of the transparency to the public, is occasionally presented to an assembly of parents or upon request.

An important element in the presentation of the school is the “*collaborazione scuola-famiglia*” which means that meetings with parents are convened before the beginning of the academic year, at assemblies scheduled in October, December and April, through assessment which is sent home in February and June, parent-teacher conferences scheduled for November, March and May, and through communication in the student diary which must be signed by the parent on a daily basis.

The ideas presented in the brochure were confirmed through questionnaires, data charts, interviews and observations. Indeed the collaboration between school and family was as indicated; the assessment of students did occur as scheduled. In fact, only two discrepancies were noted between the espoused and the in use theories: the facilities and the individuality of the students.

According to the leaflet the school is comprised of 15 rooms: science lab, reading lab, computer lab, English lab, art room, music and audio-visual room, gymnasium, library, sick bay, meeting room, lunch room. The computer lab, art room, gymnasium and lunch room were used on a regular basis but other classes were reportedly and observed to be only held in the base classroom. The library was never visited by students. In fact, the students were unaware of any library except the thirty or so books kept in their classrooms and the one to be found, but never visited, in the middle school.

A more important espoused theory which will be elaborated on throughout the findings is the idea that the teachers should “*riconoscendo ogni bambino come individuo con il proprio bagaglio culturale e di esperienza*” which states that every child will be recognized as an individual with his or her own culture and experience. As a philosophy this is an ideal worth sustaining but as a theory in use it certainly was not observed. Instead what was seen and stated by the teachers was the opposite.

The expectation of the teachers was that all students shall have the opportunity to learn the information presented by the teachers; therefore, the appearance was of water being poured into ice trays and placed into the freezer to produce children who appear all to be the same. This is evident in the student work found in the appendices of this study and present at various intervals throughout these research findings. The student work was selected randomly (three girls and three boys) without opening the plastic covers which enveloped the notebooks, a different color for each subject. The notebooks themselves were symbolic of what would be inside, symbolic of a teacher-centered approach.

The 2003 Moratti reforms were an attempt at decentralization, a national system of evaluation, parental choice and involvement, reduction of expenditure and the introduction of “inglese, informatica, imprenditoria.” These elements lead one to believe that the Italian education system is moving toward the New Right doctrine. Instead of a citizen’s right, education is becoming a commodity. The argument being to encourage class mobility:

One of Italy’s major problems is the low level of social mobility, and school education is a decisive factor in this area. Comparing students’ educational qualifications and levels with their family background indicate that children tend to follow the same educational path as their fathers. If the father has completed only compulsory education (i.e. middle school), the possibility of the son obtaining a university degree is 15.8%, while it is four times higher if the father is a university graduate. This raises the question of whether the new reform will affect this situation.

(Papparella and Rinofi, 2003)

Yet it is clear from the work of Brown and Lauder (2001) that these changes are not likely to bring about class mobility. They explore the importance of social background in relation to IQ. Based upon various researches conducted by Floud and Halsey (Britain), Bowles and Gintis (United States), and Lauder and Hughes (New Zealand), Brown and Lauder state:

It has also been shown that people from disadvantaged groups consistently underachieved in terms of school performance or in the job market, even when their IQs were found to be equal to those from privileged backgrounds.

(Brown and Lauder 2001, 211)

Privatization of education, public choice, accountability, in short commodification of education is hardly the way to equalize. Lissovsky and McLaren observe the work of Marx claiming that a commodity “emerges when diverse products can be compared to each other by means of a universal equivalent---in the economy, this is money” (133). In Italian education this will be the effectiveness of schools represented by exam results and public choice. Yet studies point to the fact that competition merely reduces education to a commodity rather than to the right of a citizen.

Since World War II, Italy has been traditionally a socialist country with values geared towards the abolition of fascist ideology and the well-being of every citizen. Examples of this are: the execution of thousands of fascists after WWII, the exile of the King and his family for over 50 years, the implementation of a universal health-care system available to every citizen, the right of every citizen to work and the right to free, compulsory education.

The current trend on the political scene is to move these old traditions not backward toward fascism but sideways (to avoid the connotation that “forward” would suggest) toward the New Right/free market trends witnessed in countries such as the United States and Great Britain. It seems that the reforms from the Ministry of Education are moving the Italian school system toward a New Right model, toward commodification. The family of the Savoy have been granted re-entry into Italy with the welcome deserving of a royal family---excessive television coverage, meeting with the Prime Minister, the President of the republic and the Pope himself---mere symbolism of Italians leaving the past behind and joining the western world, a free market

ideology. The symbolism of the Savoys re-entry coupled with political steps moving away from socialist values all strongly suggest a move toward New Right theories and more specifically toward the commodification of Italian education. Socialist education or commodification of education? The issue here is whether one or the other is “boy friendly” the answer of which will be explored in the next chapters.

CHAPTER FIVE: SITE-SPECIFIC FINDINGS

This chapter sets out to present the findings of the questionnaire, data chart, observations and interviews as they were measured against the criteria identified and defined in Chapter Two of the paper. Firstly, the setting including schedules and curriculum will be described. Secondly, each criterion will be presented and examples given to represent how the teaching methods measured against the criteria. Student work will be used throughout to exemplify the activities observed. A third element which will be used to demonstrate the findings will be the quantitative data collected regarding assessment. A compilation of data will be used to further exemplify how the in-use and the espoused theories of the teachers and the school were at times in conflict rather than of one accord. Finally, some conclusions will be drawn with regard to the data collected.

5.1. A DESCRIPTION OF THE SITE

5.1.1. CLASSROOMS

The three classrooms where the observations were conducted were situated in close proximity to one another, occupied one wing of the school and were similar in many ways. Firstly, the visual displays consisted of drawings completed by the children of their bodies or of a self-portrait, a skeleton, the alphabet, the times tables, a map of Italy, a crucifix (Italy is predominantly Catholic) and a chart with the jobs which the children were assigned on a weekly basis. Each classroom had a cupboard in which to put the student work (notebooks or files), a long blackboard at the front of the class, a teacher's desk, a desk for each student arranged either singly or in doubles or triples if classroom size did not permit single seating. Backpacks hung on the backs of chairs and a group of books brought in by the students sat in the window sill to serve as the class library. Rooms did not contain computers,

white boards or interactive whiteboards, televisions, radios, not even a carpet for group reading. In fact, the teachers could get to each student in the room but it was a tight squeeze to do so. The teacher usually placed herself at the front of the room near the blackboard and rarely (during the weeks of observations) went around to the students' desks.

Before the beginning of school students were expected to buy the following list of materials: colored pencils, colored markers, pen, eraser for pen, pencil, eraser for pencil, glue ruler compass, protractor, sharpener, notebooks with covers of specific colors, files, diary, pen refills. Students were also requested to bring in a book to contribute to the in-class library. Throughout the year miscellaneous items might be requested such as a small hand mirror for use in drawing a self-portrait during art, a workbook for English lessons or a newspaper for use in learning the layout of a front page. These requests were minimal and were not made often.

5.1.2. LESSONS

A typical lesson consisted of the teacher explaining a concept and the students writing down either dictation or notes from the blackboard then completing a written activity on the lesson. Assessment was either a written or oral test on rote memory items. The lessons were typically broken into two hour blocks where children were expected to stay seated and quiet, listening.

5.1.3. SNACK AND LUNCH INTERVALS

The break from 10.30 to 11 was a moment of relaxation for students and teachers and was taken in or between the three classrooms where the girls would be chatting, the boys would be running or playing games and the teachers would be having a coffee. Although students were not permitted to go outside, they really 'sfogato' in the halls: the boys would run and scream

while the girls seemed to talk. Boys played games with toys brought from home. The teachers were chatting amongst themselves and having a coffee at the coffee machine which was in full view of the hallway although there was not always a teacher supervising in the classrooms. The bidelli (cleaning personnel) helped the teachers keep an eye on the students so that they would not go beyond their three classrooms.

The lunch period was a time where students ate in the cafeteria or were permitted to go home to eat. Those who remained on the school premises for lunch were taken outside to an open field where for the most part the girls sat and talked and the boys ran around playing games.

5.1.4. LENGTH AND SCHEDULE OF THE SCHOOL DAY

Students and parents were permitted to choose between “tempo pieno” or “tempo modulo.” Those who chose full-time schooling remained on campus on Tuesdays and Thursdays and would have time to complete homework in their classrooms. Those who chose to leave school at 13.00 would have the same homework to complete elsewhere. The schedule as printed in the pamphlet was as follows:

TEMPO SCUOLA ore 27+3+10 (EX T.P.)
Dal Lunedì al Venerdì ore 8,30 alle ore 16,30

TEMPO SCUOLA ore 27+3 (EX M.O.) (con possibilità di mensa)
Giorni di rientro LUNEDÌ-MERCOLEDÌ-VENERDÌ

See the chart on the following page for more specific details on the schedule for the academic subjects as executed in one of the 5th grade classes observed.

	8.30-10.30	10.30-11.00	11.00-13.00	13.00-14.00	14.00-14.30
MONDAY	Italian	B R E A K	Italian	L U N C H	Science/ Math
TUESDAY	English/Art/ Computers		Italian		Homework (either Italian or Math)
WEDNESDAY	Religion		Italian		Music/ Geography
THURSDAY	English/Art/ Computers		Math		Homework (either Italian or Math)
FRIDAY	PE/Math		Math		History

Figure 4

The subject material included the following:

- Lingua italiana
- Matematica-scienze
- Storia-geografia-studi sociali
- Educazione all'immagine
- Educazione al suono e alla musica
- Educazione motoria
- Religione o attività alternative (optional)
- Lingua straniera (inglese-francese)
- Attività multimediali

The percentage of each subject material can be seen through the graph on the following page where Italian language (grammar and writing) comprises the majority of class time with Math and Science following close behind. Other subjects were equally proportioned throughout the week.

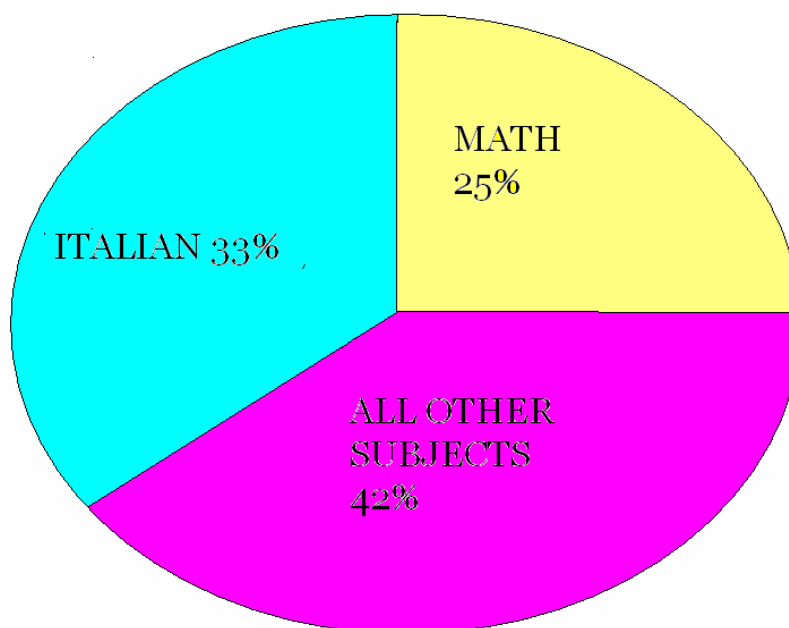


Figure 5

5.1.5. ORGANIZATION OF STUDENTS

The organization of the classes included whole groups, smaller groups, open, parallel classes, in laboratories and with intervention of experts from outside the school. Indeed, the researcher was permitted to observe all of these in action including the latter one where a sessuologo came into the classroom to speak to the children about puberty and emotions.

5.2. MEASUREMENT OF METHODS AGAINST THE CRITERIA

5.2.1. THE ESPOUSED WITH REGARDS TO GENDER SPECIFIC METHODS

The daily activities consisted of reading texts, underlining or highlighting important material from the texts, copying from the board, memorization, oral (mostly) or written (less frequently) tests. Without a doubt, the teachers did not see gender as an issue when teaching. All the teachers in the 5th grade team in informal interviews expressed their opinion that gender was not an issue with regard to achievement (this will later be shown to be true based on the data chart compiled by the teachers). Two of the teachers on the team said they actually preferred teaching boys while another two saw social class, culture and parental involvement and expectations as a more important factor with regards to achievement.

The 5B Geography and Mathematics teacher said she believed that the children whose parents followed their work at home were more likely to be successful at school. She also said that the expectations of parents played a deciding factor. For example, the teacher noted how in the Romanian culture boys are expected to achieve while it is less important for the girls. The teacher noted that these expectations had played themselves out in the case of several Romanian students in the school. The girls were capable enough but the boys worked harder and achieved better results. She attributed these and similar examples of achievement to what she claimed were cultural and parental expectations. Her interpretation of the role of class, culture, parental involvement and expectations is in line with the literature review in terms of how important these factors are to the success or failure of children at school.

5.2.2. THE IN USE WITH REGARDS TO GENDER SPECIFIC METHODS

The questionnaires, data charts, observations, and interviews allowed the researcher to compare the Italian teaching methods of the teachers from the chosen environment to the criteria which were set as a measure to determine

the extent to which the methods were gender specific. A recap of the criteria selected is as follows:

To enhance learning the classroom activities might include:

- be varied to include the kinesthetic
- be less teacher-talk and more student-doing
- have time-limitations
- have purpose and audience
- be clear
- include humor
- be directed with progression
- include competition
- include group work, both small and large scale
- include time for reflection
- include positive feedback
- include modeling of written exercises

When considering the above criteria, it is best to look at each separately.

5.2.3. SPECIFIC CLASSROOM ACTIVITIES

Classroom Activities Should Be Varied

The first of the criteria is that the classroom activities be varied and include the kinesthetic as was indicated by Caine and Caine (1994) and Gardner (1999). The philosophical underpinning behind utilizing varied activities to accommodate all learning styles has been discussed by the Gloucester LEA (2003) and it has been suggested that for the most part boys are kinesthetic learners. While some people prefer the visual (29%) and some the auditory (34%), most prefer the kinesthetic (37%). As the Gloucester LEA (2003) pointed out boys are most likely to have a kinesthetic preference while girls a visual one but only 10% of teachers have a kinesthetic preference! According to the article on National Healthy School Standard, kinesthetic would include such activities as drama, investigation, hands-on experimentation or dance.

During the lessons observed students stayed seated for two-hour periods during which the argument might or might not change but the activities rarely did. The activities observed (and according to the information provided through the interviews with the teachers) rarely included the kinesthetic, rarely included movement other than writing. The methods largely consisted of reading from the text, highlighting, copying examples from the board and completing exercises. Some parts of this would be done orally but all activities were completed without discussion with fellow classmates. The English foreign language lessons were one example where the kinesthetic occurred. For example, during one lesson conversation from the text was practiced between students sitting near one another and on another occasion an English game was played where a riddle had to be read out and the answer provided by a member of an opposing team. The teacher of science for class 5C said that she used various methods to explain materials especially in science. One example she gave was related to electricity. She brought in a battery, two wires and a light bulb. The teacher said in addition to this activity she also brought in a balloon to demonstrate static electricity. The researcher did not observe this teacher using any kinesthetic or varied methods (these examples are of varied methods but not of a kinesthetic nature). Another moment when students would participate in a social yet academic activity would be when students would break up into “gruppi.” This occurred every Tuesday and Thursday but this occurred because students would be in a study hall if they could not or did not want to go home. The other kind of “gruppi” was worked into the curriculum and was on a rotating schedule. Further discussion of these “group” activities will follow. It is important to note that what was termed “gruppi” did not mean “group work” but instead simply meant that the work would be done in an assigned group other than the normal class grouping.

It is true to say that the resources for the teachers were minimal. The teaching tools consisted of a chalkboard, different colors of chalk, paper (notebooks

and binders), writing utensils, glue, scissors, construction paper, a map, an in-class library of not more than 30 books that the children had donated from home, battery-less clocks in every classroom (metaphorically interesting since the classrooms did seem to be “stopped” in time). Space was certainly not a commodity since students barely had room to stand up at their desks.

Although the school only has access to the middle school library and does not have its own, it does have a computer lab that was shared by all classes (grades 1 through 5-two or three sections in each grade level) and contained 9 working computers. A common room had a television where students were reported to have watched two films on the life of Christ during the year; otherwise, there were no interactive whiteboards---no whiteboards for that matter---no projectors, no computer in the classroom, no visual aids except an alphabet which looked as though it had been hanging in the classroom since the group began in it 5 years previously, student artwork displayed for the whole year and a map. However, varied teaching methods are not dependent on technology. Even the classroom set up was traditional: teacher’s desk in the front, all desks in rows facing the chalkboard, an example of the focus of the lessons (on the teacher rather than student-centered, individualized or differentiated). In informal interviews teachers were asked about the seating of students. Their responses confirmed that the seating arrangement was used to keep students from disturbing one another. The closer a student sat to the teacher’s desk the more help the student needed, academically or behaviorally.

Although the researcher does not know if the learning preference of Italian boys is kinesthetic, the conclusions of Caine and Caine (1994) and Gardner (1999) indicate that more than one method is necessary to access and assess the intelligences and learning preferences of either boys or girls. In other words to teach any child, varied methods are more effective for both the teacher as well as for the learner. Yet, in the classrooms observed less than 10% of the methods were anything other than what the VAK preferences

would term as auditory. Therefore, the achievement for this criterion is measured as achieving a low level.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			

Classroom Activities Should Be Less Teacher-Talk and More Student-Doing

The second criterion was to have the teachers talking less and the students doing more. Based on the work of West (2002) and that of leading educational publications in the UK, effective teaching for boys is less teacher-talk and more student-doing. Since boys are not particularly good listeners a more effective way to teach them would be to get boys “doing” early in the lesson. Of course that does not mean that boys are not expected to listen. It only means that being clear and concise with instructions and getting boys to be active increases the likelihood that boys will learn. This was not the case in the Italian primary school classes which were observed.

The classroom activities were teacher-centered rather than student-centered (as demonstrated earlier by the classroom lay out). The activities revolved around what the teacher said and did. Students were expected to look at the teacher, listen to the teacher and to write exactly what the teacher wrote on the chalkboard, in the colors the teacher dictated, on the lines instructed. If the work was not to the standard that the teacher expected he/she might ask the student(s) to rewrite the assignment. This occurred twice during observations.

The routine in the mornings was for the students to come into class, take out their notebooks, listen to the teacher introduce the lesson which could take anywhere from 30 to 40 minutes, and then begin copying notes from the chalkboard. Students were expected to copy notes from the board in a precise

and accurate fashion. Towards the end of the lesson the teacher might have students go to the board to write answers to the exercises especially during math lessons or during a grammar lesson where grammatical analysis was the purpose of the lesson. This would go on for the first two hours until students were dismissed for break.

This criteria relates to the previous one and scores similarly. The methods remained stagnant and the students needed to remain still. However, in defense of the teachers they presented a concept and had students write it and do (usually) written exercises to demonstrate understanding. The method scores a low in its achievement level because although students did do exercises the teachers spent over half of the lesson time explaining then another portion having students copy notes or underline text and a small amount of time having students complete written exercises. This method of teaching is centered around teacher talk rather than student doing.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			

Classroom Activities Should Have Time Limitations

The third criterion was to have activities with time-limitations where the goals are within reach and where the work has pace, direction and progression. Since a child's concentration span for listening and sitting is naturally low, setting tasks that have time limitations and varying activities is a good way to keep boys' attention and to limit their frustration at not being able to stay on task. If boys know how long they need to concentrate, it helps them to control themselves. In addition, a sense of accomplishment through bite-sized chunks

of work which progress in a definite direction give a sense of satisfaction without being overwhelming for students.

This was certainly the case in the classrooms in which the researcher observed. All activities had a specific goal in mind and an expected completion which was usually during class. Homework would be pages assigned out of the text or an assignment which had been copied from the board. By the mere nature of the kinds of activities, time limits were inherent. The lessons were structured and had definite purpose to them. An example of a specific lesson was when the Italian teacher of 5C wrote the grammar rules for active and passive verbs on the chalk board. She orally explained the rules (no students were permitted to write at this time). The teacher then asked students to copy the grammar rules in their notebooks. She also wrote sentences on the chalk board and asked students to transform them into the passive form using the rules which had been previously explained. While students were working independently and in silence on the activity, the teacher gave special attention to a student who had arrived in September from Maldavia (she did not speak Italian upon her arrival in the 5th grade class). Once students had completed the assignment the teacher called on various students to give their responses to the exercises. While orally correcting the exercises the teacher would also review other grammatical terms such as “objective complement” and “direct object” because the forms were relevant to the sentence structures when using the active and passive verb tenses. The exercise as it appeared on the chalk board is contained in the box on the following page.

21/04/'08

ATTENZIONE!

Nella trasformazione dei verbi dalla forma attiva a quella passive devi mantenere lo stesso modo e lo stesso tempo.

Es. Le api hanno succhiato il nettare dei fiori. MODO:

INDICATIVO./ TEMPO: PASSATO PROSSIMO

Il nettare dei fiori è stato succhiato dalle api. MODO:

INDICATIVO/ TEMPO: PASSATO PROSSIMO

(PASSIVA)

FRASI:

- 1) L'ortolano arriva trapianato le piante di pomodoro.
- 2) A un tratto le nuvole hanno coperto il sole.
- 3) Il maestro dirigeva l'orchestra.
- 4) Il portiere lanciò il pallone troppo in alto.
- 5) Gli zuccheri producono le calorie.

Figure 6

The teacher paced the activity and kept all students working together. Speed was not rewarded in this case or in other lessons observed. What was important was that the teacher presented a bite-sized chunk of information and asked students to demonstrate their understanding through written exercises. The teacher then confirmed understanding through oral corrections and the activity was complete. Other lessons observed were often of a similar nature. The instructions of the lessons were always clear as were the expectations and the teachers were not lenient especially the class teacher. (The teachers who

came in less frequently were less clear, less organized and less rigid with the students for the most part.) As far as could be noted, the larger activities were also broken down into “bite-sized” chunks so even then students would work on small bits of the project with definite time limitations, pace, direction and progression to the activity. However, it may be noted that the kinesthetic was rarely interwoven with the audio or the visual learning methods. So, although the activities were paced and had direction, the change of pace was rarely a more active one but rather continued along the same lines.

Based on the texts, the classroom organization observed, and interviews with the teachers the pace was adjusted according to the median of the class. The team of teachers guiding the three classes was unified in its belief that class 5B was the quickest group and moved at a more rapid pace than the other two sections. 5C was felt to be the slowest of the groups and indeed had the - foreign and dyslexic students who both needed particular attention although the other students were not reported to have needed a quicker pace. The team admitted that in the earlier years they stayed on the same daily activities and at the same speed but as the personality of the class became evident, the teachers adjusted their method, pace and direction based upon pre-determined objectives set by the Italian ministry, the school itself and the team of teachers. The criterion achieved a high level because although the methods were largely single, time limitations, progression and direction were made obvious to students and to the observer.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X

Classroom Activities Should Have Purpose and Audience

The fourth criterion would be that purpose and audience are a part of the activities so that the learning would have meaning. Ensuring that activities have a purpose and audience is a motivator for both boys and girls and makes learning meaningful. Students work more enthusiastically when they feel that the assignment is more than just something to keep them busy.

This was true to a certain extent in terms of the teacher being the audience and the purpose was certainly to please the teacher. But on a more important level, math might have word problems even practical ones such as related to the emotions students had discussed with the visiting psychologist or the essay writing would be related to the students' pets or the newspaper might be written about a verb competition which occurred in class.

Some activities would even have an audience other than the class teacher herself. For example, the class teacher of 5B enjoyed creating elaborate bulletin boards with the students which were displayed in the hall or writing the front page of a newspaper. These activities were infrequent but they did occur. First, the teacher had students bring in the front page of a newspaper then she discussed with the students what appeared on the page (this occurred before the observations began). In the lesson observed, the teacher dictated notes to the class which are contained in the box on the following page. She dictated slowly and with precision to make sure all students stayed together. She dictated every punctuation mark: "punto, trattino, a capo." She also dictated the colors that the words were expected to be written in.

Il titolo precede gli articolo e deve avere le sequenti caratteristiche:

- Deve essere scritto con **characteri piu grande**,
- Composto da **poche parole**,
- Deve fornire **l'informazione essenziale**,
- Deve essere scritto in modo **efficace**.

Nel resto della pagina

- **il titolo** comunica in poche parole il contenuto dell'articolo.
- **l'occhiello** è la riga scritta sopra il titolo, fornisce elementi che aiutano a comprendere il titolo proprio.
- **Il catenaccio/sommario** è collocato sotto il titolo, è una variante dell'sommario, una spece di secondo titolo scritto su una sola riga.

Figure 7

She then designed on the chalkboard the front page of a newspaper and labeled its parts. A copy of a student's version is displayed on the following page.

22-4-08

La prima pagina dei quotidiani

La prima pagina è come la "vetrina" del giornale in cui vengono presentate in sintesi le notizie più importanti. Vediamo come viene organizzato lo spazio della prima pagina

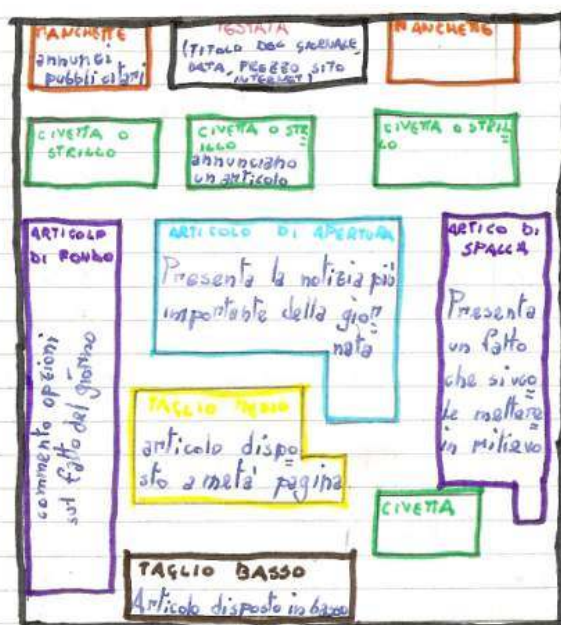


Figure 8

From what was observed and indicated by the teachers themselves the other teachers on the team did not do the same kinds of projects. The class teacher from 5B was an exception. More formal audiences and purposes were rarely felt necessary; it is for this reason that the achievement level for the criterion only receives a satisfactory level.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		

Classroom Activities Should Be Clear

The fifth criterion is to be clear. Simplicity and clarity with instructions and expectations help ensure that boys both understand and try to achieve. Step-by-step instructions are particularly helpful when displayed in the class. Although the latter suggestion was not observed, simplicity and clarity were certainly a part of the classroom norm because routine was followed daily and rarely strayed from. Instructions were always clear, precise and simple. Students were expected to do exactly what the teacher instructed as was indicated in the previous criterion. Notes were to be copied exactly with lines to be skipped and colors to be used indicated through the example written on the chalkboard. Even if the exercise was orally presented the teacher would indicate the exact way in which the notes or exercise were expected to be completed. Routine aided in the clarity of all lessons. Children could be certain of the expectations and the method of completing assignments; thus, the achievement level for this criterion is high as is reflected even in the descriptions of the other criterion.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		
Clarity				X

Classroom Activities Should Include Humor

The sixth criterion is the inclusion of humor which according to West and Wilson is one of the elements that boys identify as making a teacher preferable. One teacher observed used humor in her rapport with the class but most teachers were quite serious and used sarcasm and fear to keep control of the class. Comments by the teachers which were recorded in the field notes include:

Mamma mia, how badly you write!

Ecco! We could have known that. You've been like that all day.

Use a bit of logic, no? We don't do those kinds of things!

When you shout you demonstrate that you are a young child who can't control himself. It will be interesting to see if you can control yourself like a 5th grader. Do you want to be promoted to Middle School?

Have you taken a concentrated dose of caffeine?! (Student receives a timeout of five minutes during recess.)

Andrea let's see if you can continue with the exercise. Until one minute ago you were only playing.

I'm trying to control myself and not get angry. You're behaving badly.

If you are opening your mouth just to have something to say it would be better to be quiet. You would earn much. Really a lot.

How many times do I have to repeat myself? Is everyone in here deaf?

What cannot be recorded here is the tone with which the comments and threats were administered. One example of how serious the teachers were comes from a lecture given by the teacher considered (by her colleagues) and as demonstrated (through her work with the children) “the most creative” of the class teachers. First, the teacher quotes Maria Montessori: “Non cercano grand idea se non c’è silenzio” (One can’t find great ideas without silence). She then asks a student to repeat the quote from Montessori. The teacher explains the importance of working in silence after which the students work quietly.

Sarcasm appeared to be the teachers’ way of keeping control of the class by instilling a type of fear in the children. Class control was maintained through the negative: reporting aloud poor marks and reprimanding misbehavior. One teacher in particular had a reputation of using humor. She was the math teacher for all three classes. She indeed did find ways of joking with the children but she also used negative reinforcement to keep control of students such as shouting and degrading them through sarcastic remarks. This criterion achieved a low level due to the use of sarcasm as a control mechanism for behavior and due to the fact that otherwise humor was rarely, if ever, observed in the lessons.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		
Clarity				X
humor	X			

Classroom Activities Should Contain an Element of Competition

The seventh criterion is based on an element of competition within the classroom. This was observed on occasion, both negatively and positively. In one lesson the class teacher of 5C organized a “gara dei verbi” where teams of students participated in a competition of memorization. Four or five students comprised a team. A team would be called to the front of the class (the students seated nor the team members could speak to one another). The teacher would then ask each team member to answer a question related to verb declensions within a 6 second time limit. The teacher would give each student a mark based on the quickness and thoroughness of the response. The total marks per team member were added up to determine the whole team’s score. The assessment was masked a group effort but was scored individually in the teacher’s grade book and the “group” was not permitted to speak to one another during the process. However, the element of competition was exciting for all involved and the fact that two teams tied in the final score left many students asking to continue the game. The teacher declined the enthusiastic plea saying that they needed to continue with other planned work. This was a positive instance of competition

A negative example was not an activity per se but how the teacher of geography pitted students against one another during the oral “interrogazione” and at the end of the test told students who received the lowest marks. This is in contrast to perhaps creating a feeling of competition where the best marks are announced or even posted. Or better still a competition where the students compete against themselves to achieve better results for personal satisfaction. Competition was not often exhibited but it was observed occasionally and therefore achieves a satisfactory level.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		
Clarity				X
Humor	X			
Competition		X		

Classroom Activities Should Include Group Work

The eighth criterion is based on social learning where group discussions and group projects are permitted. For the most part, this criterion was non-existent during my observations as well as according to teachers interviewed.

Beginning with the time-table one can observe that “gruppi” is incorporated into each week. This name, however, is misleading since the groups were in name only and students were not permitted to work together. Silence during group work was expected and individual grades on projects were taken

(although teacher supervision and assessment did not seem to be particularly excessive since all students in two sections received the same marks in the subjects assessed for “gruppi”).

Another time for group work included the Tuesday and Thursday afternoons when homework was the task at hand. Once the homework was completed, students could talk quietly or play games. This part of the day was not considered curriculum time but resembled after-school care or a homework club.

The class teacher of 5C showed the only evidence of group work. She said during an interview that she does at times allow group work if the activity calls for it. So in her class she said for a period of time the students may participate for a week in group activities or for weeks they may not have any group work. However, when teachers were asked if they did group work the response was “non tanto” which means “not very often.”

As a part of a lesson, the researcher never observed small group discussions although the class of religion was one where a text on child labor was read, discussed aloud and students were asked to write about their feelings: “Che cosa pensi di coloro che sfruttano i bambini facendoli lavorare?” After students completed their written responses, they read them aloud. This was as close to child-centered as the process came although the lesson still began with dictation. Even though the work was not “group” the focus moved from the teacher to the student. In a subsequent interview with the teacher, her comment was that her method is frowned upon by the other teachers and she often feels ostracized and like the way she teaches is inferior to what the real teachers do:

I am just like that-I want the children to think for themselves. I want the ideas to come from the children. It's not easy because I teach many students for few hours. Plus, I have conflicts with my

colleagues. Religion as a subject is penalized. Sometimes I feel like I have mistaken my job.

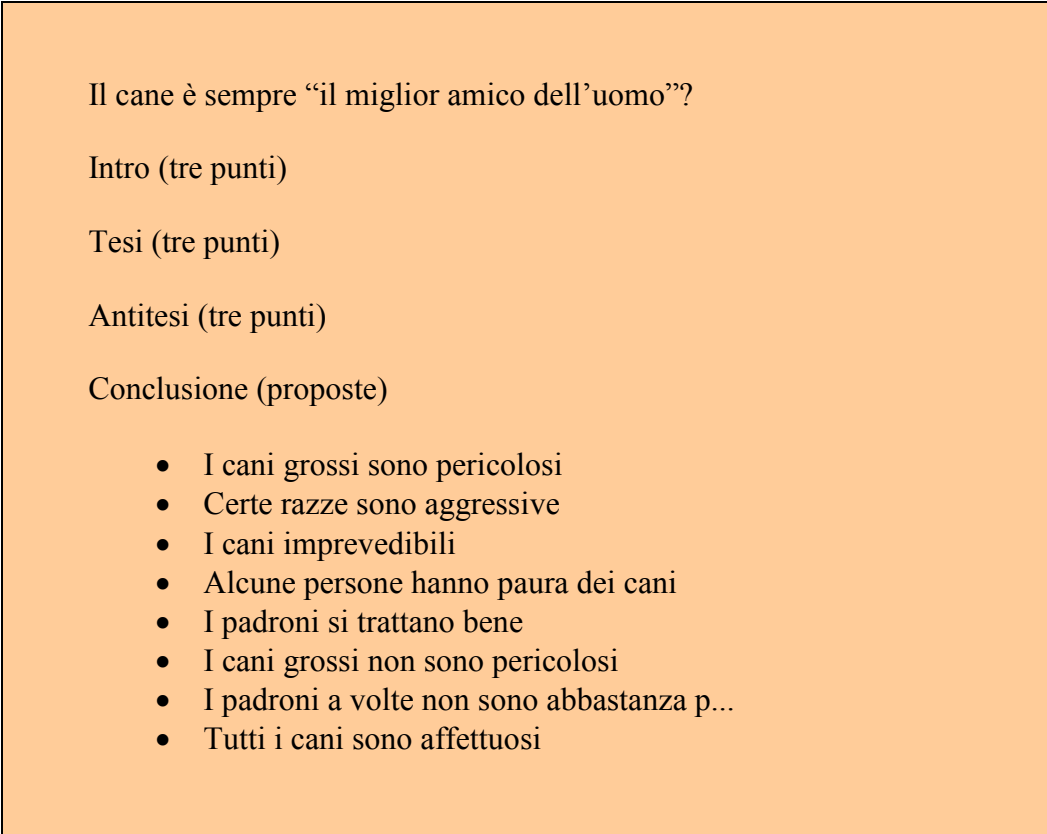
Based on the non-existent nature of group work despite the espoused theory included in the schedule and in the parent-information brochure, this criterion achieves a low level.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		
Clarity				X
Humor	X			
Competition		X		
Group work	X			

Classroom Activities Should Include Time for Reflection

Another important element to keep in mind when teaching boys is to allow time for reflection and review at the end of the lessons. Having students evaluate themselves and reflect on the value of the work is useful to reinforce the importance of the skills taught and of the achievement level of the student; however, like group work, reflection and review was simply not a part of the lessons observed. Teachers would recap the assignments and the schedule for the following day, but reflection was not appropriate since the work was copying, reading and memorizing. Review was certainly included in the daily activities because the lessons seemed to build on one another. For example,

the teacher of 5A had essay writing activities which built upon one another from the beginning of the year and towards the end of the year while during my observations, brain storming, discussion and essay writing ensued from a long line of sample texts, prior exercises. See the box below for the instructions which were written on the chalkboard for the students:



Il cane è sempre “il miglior amico dell’uomo”?

Intro (tre punti)

Tesi (tre punti)

Antitesi (tre punti)

Conclusione (proposte)

- I cani grossi sono pericolosi
- Certe razze sono aggressive
- I cani imprevedibili
- Alcune persone hanno paura dei cani
- I padroni si trattano bene
- I cani grossi non sono pericolosi
- I padroni a volte non sono abbastanza p...
- Tutti i cani sono affettuosi

Figure 9

This day obviously was on a continuum of review and practice which brought the students to the curriculum objective set out by local and state requirements. Reflection in terms of reviewing mistakes made on an assignment was done when notebooks or tests were handed back. Major errors would be discussed on the board. Students might read aloud from notebooks which were passed back and the teacher might comment on mistakes made by the class. This would be the moment of reflection on the assignment. However, personal reflections such as how the day went, feelings

about an activity or event, or self-assessment were not frequent occurrences during a typical day observed.

On the other hand, the school did organize an activity which was related to the study of the body in science. The school invited a “sessuologa”-a psychologist specializing in physical development of the child-to speak to families and to the children. During the researcher’s observations a two hour session with the sessuologa took place with the three sections of the 5th grade. Boys and girls were kept together. Anonymous questions were written by students before the session to be answered by the sessuologa. When one class teacher was asked if she thought it a good thing that boys and girls were kept together during the session, her response was that it was definitely a good idea; in fact, she felt it was important for them to be kept together so that students of both sexes could hear all the questions. She did not feel that either the boys or the girls would be nervous in front of one another. The group sat on chairs in a circle without desks.

What could be considered a moment of reflection was the math teacher’s subsequent activity where she discussed the emotions previously explored with the sessuologa. Her lesson ran as follows:

The teacher recaps a lesson from the previous week: during the lesson of emotions last week you drew a person and identified what made him feel different emotions: for example, fear. The teacher writes on the board: *Le Nostre Emozioni*

Then she dictates what needs to be written in the notebooks:

Venerdi, 18 aprile 2008 è venuta dottssa Oricchie è abbiamo giocato-lavorato sulle nostre emozioni. Divisi a gruppi, poi, abbiamo costruito un personaggio di fantasia descrivendo tutte le sue emozioni. Ora tramite un grafico rappresentiano i nostri emozioni.

(Friday, 18 April 2008, the doctor came and we played and worked with our emotions. Divided into groups we constructed a pretend person describing all his emotions. Now we will make a graphic representation of our emotions.)

The teacher then lets the students speak giving an emotion. The emotions are graphed and made into percentages. She writes on the board and has the students copy. Then they begin the math. Students go through all the emotions together writing the percentage.

Allegria	$\frac{2}{20}$	=	$\frac{10}{100}$	=	10%
Ira	$\frac{1}{20}$	=	$\frac{5}{100}$	=	5%

Figure 10

An example of a student's work during the lesson follows:

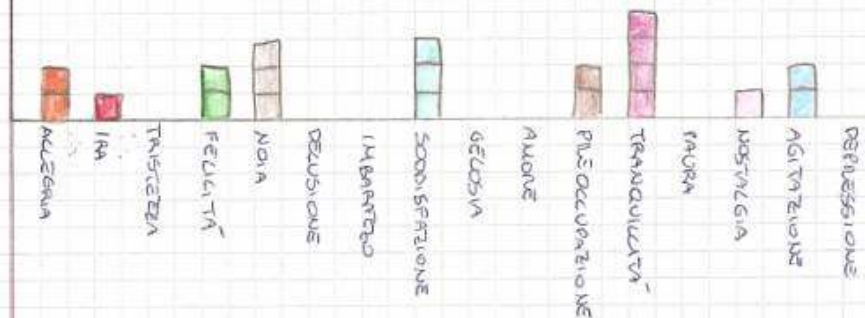
Givedì 24 Aprile 2008

LE NOSTRE EMOZIONI!

Venerdì 18 Aprile è venuta la dottoressa Olivieri e abbiamo giocato-lavorato sulle nostre emozioni.

Divisi a gruppi, poi, abbiamo costruito un personaggio di fantasia descrivendo tutte le sue emozioni.

Ora tramite un grafico rappresentiamo le nostre emozioni.



□ = 1 persona

le nostre emozioni.

- non è semplice dire ora la propria emozione,

- non sempre le nostre emozioni sono uguali nello stesso momento
- di più volte che più persone hanno espresso la stessa emozione
- alcune emozioni non sono state scelte.

Le nostre indagini ha coinvolto 20 persone.

- Ora trasformiamo questi dati con delle frazioni equivalenti
 li per poi ricavare la percentuale (%).

ALLEGRIA $\frac{2}{20} \times \frac{5}{5} = \frac{10}{100}$ FRAZIONI EQUIVALENTI $\rightarrow 10$ su 100 cioè 10%

IRA $\frac{1}{20} \times \frac{5}{5} = \frac{5}{100}$ $\rightarrow 5$ su 100 cioè 5%

FELICITÀ $\frac{2}{20} \times \frac{5}{5} = \frac{10}{100}$ $\rightarrow 10$ su 100 cioè 10%

NOIA $\frac{3}{20} \times \frac{5}{5} = \frac{15}{100}$ $\rightarrow 15$ su 100 cioè 15%

SODDISFAZIONE $\frac{3}{20} \times \frac{5}{5} = \frac{15}{100}$ $\rightarrow 15$ su 100 cioè 15%

PREOCCUPAZIONE $\frac{2}{20} \times \frac{5}{5} = \frac{10}{100}$ $\rightarrow 10$ su 100 cioè 10%

Figure 11

This activity has been included because it was a moment of reflection, a cross-curricular activity, and it shows purpose which achieves many of the criteria suggested for effective teaching of boys. However, it is stretching it to say that it is “reflection” for the sake of itself. It would be more accurately termed as a cross-curricular activity although reflection on the “sessuologa” is obviously a part of the activity. The criterion described receives a low level of achievement.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		
Clarity				X
Humor	X			
Competition		X		
Group work	X			
Reflection	X			

Classroom Activities Should Include Positive Feedback

Including positive feedback was probably the least achieved of all the criteria. Feedback came in the form of drawing attention to the students by using sarcastic, demeaning remarks, and even (for the most part) idle threats. This tactic was used by all the class teachers as well as the subject specialists but not by the mother tongue English teacher. An example of downright negative and humiliating feedback was given earlier when the assessment with the

Geography teacher was described. But she was not the only teacher to use negative, humiliating comments. The class teacher of 5C asked one of her students in front of his classmates what was wrong with him. She said of late his handwriting was messier than normal and that he couldn't hold still or concentrate. The class told the teacher that he had a girlfriend. The class laughed. He was then asked to redo a homework assignment which was felt to be inadequate.

Another instance with the same teacher occurred when a boy was looking out of a window while the teacher was talking. The teacher called on the boy and asked him why he was not interested in the lesson. The boy answered that he was interested so the teacher went on to give a three minute lecture as to the politeness and importance of looking at someone who is speaking because otherwise the person will think that the listener is uninterested.

The technique used by teachers to maintain control of the class was also negative in its nature. If a child's behavior was not acceptable, the teacher would raise her voice, use sarcasm to put the student in his or her place, threaten to (or actually do it) write a note in the student's diary, ask the student to re-write an assignment, detain the student during break. Using stickers, smiley faces, displaying outstanding work was never observed. All methods employed focused on encouraging students to avoid the negative (grade or reprimand) rather than achieve the positive (sticker or achievement award). Again, this criterion received a low level of achievement.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		
Clarity				X
Humor	X			
Competition		X		
Group work	X			
Reflection	X			
Positive feedback	X			

Classroom Activities Should Include Modeling

The last criterion was one where the Italian teaching methods scored very well indeed. Modeling of assignments was a strong point to the extent that all assignments looked alike. This is demonstrated in the assignments in Appendices D through I. The assignments were randomly chosen from the pile of notebooks the only prerequisite being two boys and one girl. If one looks closely at the work, one can see that it is very difficult to tell the difference. “Modeling” during the observations was on two levels.

In one literature lesson, the teacher of 5A wrote the outline of the essay on the chalkboard indicating the exact format which students were expected to use for completing the assignment. On other occasions, however, the assignments were more structured. Even class notes taken from the chalkboard had

specific directions attached to them (this was true in all the lessons except for English and Religion). Students were expected to write the words in the colors dictated by the teacher. An example with the coloration expected was presented on the chalkboard even the number of spaces to be used or skipped was indicated. The notebooks were not individual portfolios of work but mini textbook like imitations of the teacher's work. Therefore, modeling achieves the highest level.

CRITERION	Achievement level: LOW	Achievement level: SATISFACTORY	Achievement level: ABOVE SATISFACTORY	Achievement level: HIGH
Varied methods	X			
Talk less do more	X			
Time limitations				X
Purpose/ audience		X		
Clarity				X
Humor	X			
Competition		X		
Group work	X			
Reflection	X			
Positive feedback	X			
Modeling				X

Figure 12

According to the chart above, it would appear that boys would fare poorly in the final assessments given by the teachers since the teachers themselves scored low in 6 out of the 11 criteria and only high in 3. It would seem that boys would not be achieving well on the reports given out by teachers;

however, this appearance was not the case. The statistical evidence was contrary to what one would expect. Analysis of the reports found that boys surpassed girls in nearly all areas except in behavior and literacy! The chart the next page indicates the results of the mid-term marks achieved by boys and girls.

5.3. ANALYSIS OF DATA CHARTS

As can be seen the total number of boys in the three classes was 37 while the total number of girls was 31. The girls outnumbered the boys significantly in outstanding behavior but the boys never received below a sufficient mark. The girls however achieved outstanding, distinction and only one student received a sufficient. The boys achieved 2 superior marks to the girls' 14 with the majority of the class in the distinction range. 14 boys received a sufficient mark in behavior compared to the single girl. Evidenced by the marks on behavior, teachers felt that girls were better behaved. This did not seem to affect the marks given in subject areas because boys often achieved to the same degree or better than girls.

The first three subjects (Italian, English and History) have been grouped together and labeled as linguistic due to the expectations and skills needed in these subjects: reading, writing, and general literacy. The second three subject (Geography, Mathematics, and Science) have also been grouped together and labeled Math/Science subjects also due to the skills needed to achieve: logical and spatial. Computers could have been included in the second group of subjects but the method of assessment threw out the data for two reasons. Firstly, computers was conducted for two hours a week in "gruppi" which made accurate assessment difficult. Secondly, the teachers in two of the three classes awarded all students the same marks.

Girls achieved more marks of excellence than boys did while boys received more marks of distinction---significantly more. In the linguistic subjects girls outperformed boys while in the math/science subjects boys outperformed girls. The majority of the marks in all subjects lay in the assessment area of distinction which was true for boys and girls in literacy subjects, for boys in the math/science subjects but not for girls. More girls scored in the assessment area of good than they did anywhere else. More girls received insufficients overall and in both the literacy subjects as well as the math/science subjects. Twice as many girls received insufficients in science than boys did. The chart on the following page is a compilation of the data collected.

**DATA FOR RESEARCH PROJECT:
GENDER AND TEACHING METHODS**

CHART OF GRADES FOR CLASS **___THREE CLASS COMPILATION**

TEACHER **___ALL**

DATE **___1ST TERM**

TOTAL NUMBER IN CLASS **BOYS ___37** **GIRLS ___31**

	OTTIMO		DISTINTO		BUONO		SUFF.		INSUFF.	
	B	G	B	G	B	G	B	G	B	G
ITALIAN	2	3	10	13	17	11	8	3	0	0
ENGLISH	5	6	11	13	10	6	8	3	0	2
HISTORY	6	9	16	7	5	7	7	6	3	2
GEOGRAPHY	4	2	18	13	10	10	5	4	0	1
MATHS	4	2	12	7	11	13	8	6	2	2
SCIENCE	4	3	20	13	7	6	4	4	2	4
COMPUTERS	3	1	9	6	25	24	0	0	0	0
MUSIC	3	4	11	8	11	14	12	3	1	1
ART	2	4	14	19	20	8	1	0	0	0
PE	11	6	13	13	13	12	0	0	0	0
COHABITATION	2	3	17	9	11	12	6	6	0	0
BEHAVIOR	2	14	21	16	14	1	0	0	0	0
OTHER RELIG. (ONLY 5B)	0	3	7	4	5	2	1	0	0	0
TOTAL IN ALL SUBJECTS	48	60	179	141	159	125	62	35	8	12
TOTAL IN LINGUISTIC SUBJ*	13	18	37	33	32	24	25	12	3	4
TOTAL IN MATH/ SCIENCE SUBJ**	12	7	50	33	28	53	17	14	4	7

*Italian, English, History, Religion (due to the way it is taught)

**Geography, Math, Science (Computers is not included due to the assessment methods)

Figure 13

The interesting element here is that the system seems to fit into the United States and England's 1970s when equality regardless of gender or special educational needs was the issue. It was during this time that a movement to improve girls' achievement levels in the maths and sciences was instigated and ultimately improved the statistics. Instead for girls in the 5th grade at the school observed, it seems as if the math and science initiatives need to be set into place to improve achievement and interest in these areas.

The Italian educational system mimics what Hirumi (2002) called the teacher-centered approach which was popular during the agricultural and industrial eras. In the outline of teacher-centered approaches to teaching and learning presented by Hirumi, the Italian classroom was unwittingly described to perfection. The learning outcomes are "discipline-specific verbal information, lower order thinking, memorization of abstract and isolated facts." The goals and objectives are prescribed by the teacher and "based on prior experiences, past practices and state and/or locally mandated standards." The instructional strategy is "prescribed by teacher . . . designed for 'average' student . . . information organized and presented primarily by teacher (e.g., lectures) with some supplemental reading assignments." The assessment is "used to assess students' acquisition of information . . . teacher sets performance criteria for students . . . students let to find out what the teacher wants." The teachers' role is to organize and present information to a group of students: "teacher acts as gatekeeper of knowledge, controlling students' access to information, teacher directs learning." The students' role is one of expectation: "students expect teachers to teach them what's required to pass the test . . . passive recipients of information." The environment is one where students sit in rows and information is presented through lectures, books and films. A more accurate description of the observations could not have been written by the researcher herself. In the informal interview sessions this fact was reiterated by the teachers when asked what they expect to achieve. The response was

that their purpose was to prepare students for middle school and to impart the objectives of the state and locally set curriculum.

The teaching methods as indicated by the parent-information leaflet given out to families and as indicated by the teachers when interviewed are not mandated by the state curriculum only the learning outcomes are. Thus, the teachers themselves choose the teacher-centered approach. This factor may be due to the socialist nature of the society as indicated in the historical findings or it may be due to their professional training. During one interview, a teacher explained that they may participate in professional development (corsi aggiornamenti) but the hours are not paid and not obligatory. Usually a course is 4 meetings of 2 hours each and is conducted by another teacher. In the area of accountability, other teachers said that basically the principal would leave the teachers to do their work; he would never check on the classrooms, the students' notebooks or the work of the teachers unless a parent complained or the middle school complained. He was also not interested in knowing about the difficulties related to a single student and never looked at the students' work. He was reported as saying, "No, no, that's your work. You do it." This may or may not be the case with all Italian principals; for example, one teacher who had been in several schools said that accountability was much more of an issue in those schools.

To use the same metaphor again, the distinct impression during observations was that the children were water being poured into an ice tray so that all cubes came out the same. In an interview with the math/geography teacher of 5B, the teacher was asked about this impression expressed as exactly that. The response was that she believed her job was to give everyone the same opportunity to learn the objectives set out by the state, the school and by the team themselves. Her response confirmed the impression received and exemplified how the cultural history of a country is evident in the teaching of its children. The children as ice cubes are an example of the underpinnings of

socialism seen in constitutional rights of all citizens to health care, jobs and education.

5.4. ADDITIONAL FINDINGS

The lessons this researcher drew from the site specific data were two-fold: rote memorization is not bad in and of itself and in fact some learners prefer this type of information; modeling is important but not to the exclusion of skills and creativity (which means students will not have a perfect notebook or one identical to his/her neighbor's). The question left to answer is why did boys achieve as well as girls during the reporting if the methods used did not particularly favor the boys? Additional observations of the study can be divided into 8 different categories which need further investigation to be conclusive:

1. Educational expectations
2. Memorization, modeling and mimicking
3. Self-esteem
4. Boys need more encouragement in literacy/girls need it in math and science
5. Same teacher for 5 years
6. Espoused vs. in use
7. Socialistic values
8. Teacher centered vs. student centered

5.4.1. EDUCATIONAL EXPECTATIONS

Firstly, the data chart findings were based on the Italian methods which are not necessarily the same as the educational expectations of other western countries. According to Noble and Bradford (2000) the curriculum in Britain has changed and the changes were hostile to boys:

The curriculum has changed . . . the new curriculum tends to be more hostile to boys and this has had an effect upon their attitude, behavior, effort and achievement . . . in Key Stage 2 the curriculum is still

overcrowded and teachers have generally responded to this problem in the obvious, possibly the only, way. Teaching has become more content and less process oriented. This penalizes both genders, but particularly boys, whose favored learning styles are squeezed out by the exigencies of time and curriculum coverage.

(Noble and Bradford 2000, 19-20)

This factor does not explain why boys are still achieving in the Italian system because it is indeed content based with few variances of teaching methods. As expressed earlier students sat, copied, repeated responses. Students mimicked the teacher and memorized the material without thinking. But it does explain why students did not achieve to the OECD average which measured not content but applying knowledge to life skills.

5.4.2. MEMORIZATION, MODELING AND MIMICKING

The second factor is indeed the mimicking, modeling and the rote memorization involved in the Italian classroom. It has been shown that the work of the students was not varied nor creative but rather a copy of the teacher's work (see Appendices D through I for sample student work). West (2002) claims that in every subject, assessment in the UK has become more verbal. Exam papers, he says, have "lots of pages of material which kids have to read and interpret" (97). These assessment methods according to West and to the Victorian Association of Secondary School Principals (as quoted by West) disadvantage boys:

Changes in assessment seem not to have favored boys. These were to the boys' detriment because of their already higher levels of disaffection with school-based learning.

There are many variations across school performance, but there is evidence that boys had a greater range of variability than girls, and there are different patterns of variance regionally in the UK. There is evidence that girls are better than boys, on average, at sequential and analytical approaches to learning. The shift towards this style of

learning and retreat from fact-based learning seems to have disadvantaged most boys.

(West 2002, 97)

It is true that the above quote is based on secondary school students; however, one can see how it could apply to primary school boys as well especially when one of the criteria was the use of modeling which although in the classrooms observed was excessively utilized it also helped boys to be able to achieve the expectations of the teachers which was just that, mimicking and rote memorization.

5.4.3. SELF-ESTEEM

Self-esteem did not seem to be one of the priorities in the classroom nor was it espoused in the parent information leaflet. The leaflet only claimed that autonomy was expected to be strived for. It is important to look at how the sarcasm and awarding of grades would affect a boy's self-esteem. Although assessment was an important factor in the everyday classroom it can be noted that the first report card came out only in January after 4 months of school. This means that even if teachers were lenient on the formal evaluation, lectures and sarcasm probably took their toll on the students long before the children realized that the teachers would not be harsh on their report cards.

One's right to privacy was constantly violated during oral exams. Many of the tests of rote memory were conducted orally in front of the whole class which violates a student's right to privacy of grades. In fact, student marks were used in what seemed like a humiliating way: by announcing the names of those students who received the lowest marks. Unfortunately, this teacher behavior could affect the self-esteem of students. Indeed, several factors in the classroom were not self-esteem boosters. The oral distribution of grades and the sarcastic language used by the teachers to address the students, according to the theories of Caine and Caine (1994), go against brain-based

teaching methods especially if emotion is as closely linked to learning as their work suggests.

5.4.4. BOYS NEED MORE ENCOURAGEMENT IN LITERACY/GIRLS NEED IT IN MATH AND SCIENCE

Boys in the primary school classes observed achieved lower marks on behavior but as good as or better than girls in subject matter. While boys appeared to need more encouragement in the literary topics, girls under-achieved in math and science. One factor that probably helps boys not in reading but in communication is that much of the testing in primary and secondary education is in the form of oral examinations. In interviews the teachers claimed that ten years ago boys were less communicative, but the boys of today are much more so and do not suffer from oral exams. It can still be noted that the oral exams were conducted in front of the whole class with marks announced in front of the whole class. However, this appeared to hurt the low achieving girls more than low achieving boys.

Oral examinations seemed to facilitate the boys' oral abilities, but the Italian boy was still much like other boys across the world in that he was outperformed by his female counterpart in literary subjects. The data chart filled out by teachers recorded boys as being slightly lower than girls in literacy: 13 boys with excellent marks, 18 girls with excellent marks; 37 boys with above average marks and 33 girls with the same marks; 32 boys received good marks against 24 girls and 25:12 for sufficient marks with 4 girls receiving an insufficient mark as opposed to only 3 boys receiving the same. These results indicate that boys need encouragement in literary subjects but the results in the math/science subjects indicate that girls need encouragement there.

One may consider the historical events in the United States and Great Britain when looking at the girls' achievement levels for math and science. The

statistics from this small Italian sample resemble the trend in the US and the UK during the early 1970s. In math the ratio of girls to boys with excellent results was 7:12, with above average marks 33:50, with good marks 53:28, with sufficient marks 14:17, with insufficient marks 7:4. This indicates that girls need more encouragement in the math and sciences than boys need in the literary subjects, which is yet another factor leading one to think that the Italian educational timeline is close to where the US and the UK were in the late 1970s where the issue was equality regardless of gender or disabilities. The article by Ricci (2008) quoted in Chapter One also indicates as much. Ricci says that the United States used to be like Italy but now women are no longer lagging behind men in maths and science. It is countries like Italy and Turkey where women are less liberated that a disparity exists. Ricci's last comment of the article relates to the fact that although girls graduate with slightly elevated results in high school, women are still under-represented at high levels in Italian society. The indications that women study harder but are under-represented, that boys are achieving in primary school but then underachieve, that Italian schools score below average on PISA testing points to an overall deficiency in the teaching methods not only for boys but also for girls.

5.4.5. SAME TEACHER FOR 5 YEARS

The teacher-centered approach focused on modeling which was beneficial to boys but another factor also seemed to ensure that boys were achieving. The groups of students retained the same teacher for all five years of primary schooling. Retaining the same teacher for more than one year was one of Gardner's (1999) recommendations mentioned in Chapter Two. The jump from primary to middle school is a particularly difficult one often due to the change in teachers where there is also a variation in expectations. The advantage for a boy in having the same teacher for five years is that he does not have to get used to the expectations and routine of a new teacher.

According to West (2002), part of the reasons that boys go through a low at around Year 8 or 9 is due to the changing expectations in a time when puberty brings on the unexpected:

Boys often start school with enthusiasm, but become less involved as they get older. . . this trend accelerates in secondary school, peaking in Years 8 and 9. Perhaps this is because boys face a pile of teachers, with contradictory expectations of behavior and attitudes to learning.
(West 2002, 111)

The notion of boys knowing and understanding what the expectations are coupled with the desire to please someone they know so well is perhaps one of the reasons why they are able to perform in the Italian primary classroom. The mother figure (the class teacher is most often a woman; according to the principal of the school, male teachers are more common in secondary school or in university) has a strong influence on the children especially since that person stays with the children for five consecutive years. In informal interviews the teachers said that it can be either good or bad, e.g. if the class is a difficult one changing is better for the teacher but overall the feeling was that keeping the same class for 5 years benefited the children.

A factor that was particularly interesting and previously mentioned, although conclusions are inconclusive and again beyond the scope of this study, is that there was no correlation between behavior and achievement. The ratio for behavior marks boys vs. girls was excellent 2:4, above average 21:16, good 14:1 with no students receiving a sufficient or insufficient mark. The ratio of marks in all subjects, boys to girls, was 48:60 excellent, 179:141 above average, 159:125 good, 62:35 sufficient, 8:12 insufficient. The reasons for this are inconclusive but could be based on the following two elements: misbehavior did not affect a boy's ability to follow the model given by the teacher and teachers considered performance and behavior to be separate.

The correlation between behavior and achievement seems to take its toll later in the educative process. Reports have noted that in secondary school boys are not necessarily favored since they are no longer interested to follow the school “game,” no longer preferred, no longer having the “mothering” teacher to overlook behavior or lack of effort. Secondary teachers claim that boys do not achieve because they do not apply themselves as was noted in the article in Chapter One which claimed that girls fared better than boys with 98% graduating as opposed to 96.7% of the boys. The author said that the consistent element as always is that Italian women are more studious than men and therefore receive higher marks (“Matematica e inglese, boom debiti” 2008).

5.4.6. ESPOUSED VS. IN USE/TEACHER CENTERED VS. STUDENT CENTERED

Another element that stood out in the study was how the espoused theory of education as recorded in the parent-information leaflet was different to the in use theory observed in the classrooms. The espoused stated that each student was an individual and would be considered as such while the in use did not focus on the child but on the teacher. The espoused theory of education as recorded in the leaflet distributed to parents claimed that children were recognized as individuals each having his/her own cultural background and experiences. However, with a system of education that is teacher centered rather than child centered (obvious by the classroom organization, the notebooks, the routine) it is difficult to see how this could be anything other than recognizing the teacher as an individual rather than the student as an individual. The leaflet also espoused that the teachers in their methods would ensure intercultural education and the integration of living together as citizens (citizenship): “. . . riconoscendo ogni bambino come individuo con il proprio bagaglio culturale e di esperienza . . . educazione all’interculturalità, all’integrazione razziale e alla convivenza civile.” The cultural background and experiences in use were those of the teachers. This went beyond that of

the male-female issue. However, the expectations for boys and girls seemed to be one and the same-to model what the teacher presented.

5.4.7. SOCIALISTIC VALUES

The final category was related to the second in that one of the reasons that mimicking and rote memorization were so successful and important in the Italian setting was due to the socialistic values held by the population and government. According to Skelton (2001) the issues of a school mirror those of society: "Whatever is considered to be of concern in schools at any one historical point is a reflection of the existent relationship between the economy, culture and politics" (12). Rote memorization and mimicking ensures the continuation of the socialistic values that are so much a part of the Italian culture which was shown in the historical findings on Italy and her schools as well as in the comments made by one teacher during an interview where she said that her job was to give everyone the opportunity to learn the information she provided. The issue is not to achieve one's potential but to allow equal opportunity, equal amounts of knowledge to the student population. Through a content-based curriculum with expectations of rote memorization and mimicking, supposedly everyone can be assured the same education. (Gardner would disagree with this assumption as indicated by his statement on uniform schooling quoted in Chapter Two.) When asked if all teachers do the same lessons when teaching the same grade the response was that in the first years they do more so but in the later years each class diversified because of its average ability and speed of working.

5.4.8. TEACHER-CENTERED METHODS

The research on the brain can be recalled at this point to evaluate the level of knowing that the students achieve, boys or girls. According to the Caines' principles of brain-based learning, knowing cannot be taken out of the context

of body, environment or culture. Maximum learning occurs when students can make meaning which is related to the depth of the information processing.

The evidence here suggests that Italian education could move toward the student-centered approach described by Hirumi in order to keep boys interested in education long term, to ensure that skills for today's world are learned, to ensure a healthy and happy society which will in fact satisfy the socialistic values which have been so much a part of Italian culture for the past century. Italian education might consider moving from lower order thinking skills (memorization of abstract facts and figures) to higher order thinking skills and information processing skills; the teachers might work in conjunction with students to set learning goals which are based on authentic, realistic problems and students' prior knowledge, interests and experience; the instructional strategy might be determined with the students and paced to meet the needs of the individual with students given direct access to multiple sources of information instead of the current system which is designed for the "average" student with the teacher holding the knowledge; the assessment might be a part of the learning not used to sort the students; in short the teacher's role could be to provide the means for accessing information with the student being an active seeker of knowledge. This would mean that the traditional rows of students in front of the teacher and chalk board would have to be replaced with students who work in stations, taking responsibility for their own learning and assessment instead of being passive recipients of what Caine and Caine would term as "meaningless knowledge." It is the belief of this researcher that only through a change in approach will Italian education better serve both its boys and girls.

CHAPTER SIX: CONCLUSIONS

The concern regarding the achievement of boys is an international one which has been reported in countries including Australia, Denmark, France, Germany, New Zealand, the United Kingdom and the United States. Through Italian graduation statistics and PISA results Italian boys also seem at risk. This paper has explored how teaching methods affect gender differences in learning and presented findings from a qualitative study into the effectiveness of teaching methods as regards boys' learning. The applied part of the paper used site-specific data collected from a state primary school in northern Italy which suggested that the methods employed by teachers is teacher-centered rather than student-centered. The data collected through observation, interview and questionnaire was measured against criteria formulated from experts in the field of boys' education and analyzed through both an historical and a cultural lens. The historical and social factors revealed noteworthy parallels between the approach to teaching methods and Italian culture. The results of the analysis indicate that the Italian methods observed were at times effective in its approach while also deficient. This same approach which continues in the middle and high schools is less effective as the other factors in the school arrangement change.

The study itself was divided into three parts: the historical analysis, the qualitative empirical study, and the statistical analysis. The limitations of the study include the short length of observations due to the difficulty in obtaining permission to enter a state school, the linguistic and cultural discrepancies which were overcome through Italian educational consultants, and the lack of student perspectives on learning. The latter could be considered a weakness because how the students felt about the teaching methods and their effectiveness was not explored. Thus, the data rendered was strictly from an adult educator's perspective, either the researcher's perspective or that of the teachers (through the questionnaires, the interviews, and the data charts).

Although one aim of the study was to evaluate whether or not activities in the Italian state primary classroom were boy-friendly, this additional dimension could have been explored and should be explored in a future study to establish if the boys in the classroom perceive the methods as being boy-friendly. This aspect was not intended to be a part of the study since the study focused on actual teaching methods rather than on student perceptions of the methods but student perceptions could be a future study to increase the qualitative value (in terms of depth) of the data gathered .

From a reflexive standpoint, a further weakness may have been the researcher's susceptibility to a particular viewpoint of education which stems from a capitalistic rather than a socialistic background. The observations could have been culturally biased in terms of what this researcher considers appropriate classroom activities and behavior on the part of a teacher (as evidenced in the student-centered approach to education). Thick description during observations to support the case study was particularly important in the final analysis of the data to minimize cultural bias. However, this same weakness could also be considered a strength as mentioned below.

The strengths of the study lie in the viewpoint from which the researcher approached the topic (as an outsider to the Italian educational system) and in its qualitative nature: the increased understanding gained of a cultural phenomenon. Being an outsider to the system allowed the researcher to observe classroom activities from a perspective that an Italian researcher might not be able to achieve due to his/her own cultural and educational background. Again, it is the richness of the account which allows a practitioner to be able to generalize to his/her own situation or to policies within the Italian educational system. As Knight (2002) points out:

(1) readers will generalize as they make sense of the research reports, anyway, (2) researchers can be considerate and provide a rich enough account to help readers make their own inferences about

generalizability, and (3) researchers may also invite readers to share their interpretation of the generalizability of their findings to other cases and/or to theory.

(Knight 2002, 46)

A quantitative study on a wider scale may have produced greater numerical data about what teachers believe they do; however, the qualitative nature of this study revealed that, at least within the sample, the espoused is not always the same as the in use. A factor which as Knight (2002) says is “important because (a) most studies examine people’s beliefs about what they do, and (b) what they really do tends to be different from what they say (and think)” (115).

The intent of this study was to produce culturally rich, in-depth data which can be compared to other studies or can be used to improve the practice of Italian primary educators or educators from other countries who see the successful methods employed in the Italian primary school observed, e.g. longer than one year with the same teacher, strong modeling.

In the historical analysis boys’ achievement was explored as well as a survey of the research on the way boys and girls learn and its implications for teaching which led to the compilation of a list of criteria which guided the site-specific research and the presentation of its findings. Three elements became clear: boys are underachieving particularly in linguistic subjects; girls are underachieving in math and science particularly in countries where a disparity between genders exist; teacher-centered instruction is not necessarily student friendly.

Schools being a reflection of the beliefs, ideals, goals of a people and their culture were the rationale behind looking at the international and Italian context of education both historically and modern day. When the history of Italian education was compared to that of the US and the UK a clearer

perspective of the Italian classroom was gained and the initial findings of the study were presented. In fact, the Italian primary classrooms observed showed the characteristics of the United States and Great Britain in the 1970s and characteristics of what Hirumi (2002) claimed was an industrial or agricultural era.

In the qualitative empirical study the site-specific data was gathered and measured against the criteria from the historical analysis as well as against the cultural research on the Italian education system. The purpose of the site specific data was to explore how the methods in an Italian state primary school catered to gender specific learning needs.

Finally, in the statistical analysis the findings were presented in view of the historical analysis and the qualitative empirical study. The findings of the study were in some ways surprising in that although the methods of the Italian education system was in many ways traditional chalkboard and rote memory, or a teacher-centered approach, in other ways it was “boy” friendly and aided in the acquisition of knowledge as measured against the curriculum and expectations set forth by the state and the class teachers. From modeling to the achievement levels, boys did not seem to be lagging behind.

The implications of the study, however, were that the methods were shockingly deficient in terms of modern research about brain-based learning and the student-centered approach. Italian education in the classrooms observed was about the teacher imparting knowledge not about the children constructing their own knowledge and meaning. This fact left little doubt that what happens in the Italian classroom cannot be friendly to either boys or girls. Perhaps it is friendly to the teacher in that the methods ensure the class remains at one level, the state objectives can be met, and assessment is made easy since all assignments should look the same. Also disappointing was the

lack of social learning, differentiation, reflection, free expression, and positive reinforcement.

The results of the investigation have led the researcher to draw three conclusions which could be explored further to enhance the learning of all students in the Italian education system. Firstly, the study has shown that the Italian methods are in some ways conducive to effective teaching of boys. The methods in the school observed scored high in ability to set time limitations, in clarity and in modeling of assignments-all areas important for boys to succeed in the classroom. However, the findings of the study also showed that the methods of the teachers were lacking in another 6 criteria (varied methods, talk less, humor, group work, reflection, positive feedback).

Secondly, the lack of boy-friendly methods as set out in the criteria did not penalize boys when it came time to assign grades. In fact, the grades recorded for the first term did not indicate that boys were in any way suffering from the teaching methods. It seemed as if in all areas except literacy and behavior boys were up to the standard of the girls and even outperforming them.

Perhaps one reason boys fare better in the Italian system is that the expectations are not of communication of thoughts, ideas, emotion which are their own. The expectations are not of group work. The expectations are sheer modeling and mimicking and this boys have been able to achieve as well as girls or better than girls. But is the Italian system doing a disservice to both their boys and their girls when the curriculum expectations are so different to what is expected in other parts of the world? Additionally, the Italian statistics on the achievement of boys upon graduation show that their success declines as they reach high school. The exact motivation for this is uncertain but one Italian author believed it to be quite simple, boys do not study as hard as girls.

Rote memorization of teacher objectives was the key: other intelligences were not tapped into. The ability to mimic was paramount. Future repercussions for this type of schooling will leave Italians lagging behind in education, be it for girls or boys. This was exemplified in the PISA results where both boys and girls achieved lower than the average OECD country. However, as was demonstrated by the data chart on assessment, some boys are able to achieve successfully in this environment.

Lastly, the approach was teacher-centered and content-based rather than student-centered and skills-based which in the short-term when coupled with other factors was not a failure for boys but in the long-term and internationally was not effective for either boys or girls.

In the Italian system, everyone has access to the same amount of knowledge just like everyone has access to the same medical assistance and the right to keep their jobs. Although the researcher is not making a value judgment on the culture or beliefs of the Italian society, the researcher does find herself asking, “What does this mean in terms of student-centered, individualized teaching and learning to ensure that each child reaches his/her potential and is able to express his/her self in the many different intelligences that are a part of each human being no matter what cultural, racial, gender background?”

It must be considered if the most effective learning for either girls or boys is related to the use of both the right brain and the left brain and the utilization of the seven intelligences, how effective is a system that focuses on one or two intelligences and does not consider brain-based methods? The researcher’s ultimate conclusions can be identified in a single observation: the teacher-centered, content-based approach employed in the school observed is both useful to boys in the short-term and detrimental to their achievement later in their schooling and in the international arena for both girls and boys. This observation is supported by the PISA results as well as by the fact that boys

begin strong in primary education but underachieve by high school graduation.

This study has not proven that brain-based principles or MI theory directly effect learning or that Italian children would improve their PISA results if a student-centered approach were adopted. However, through the historical analysis, the empirical qualitative study and the statistical analysis, it can be suggested that more student-friendly methods should be adopted which will bring Italy into the 21st century with regards to her teaching methods.

Gardner's sentiments mirror those of the researcher:

The uniform school is based on the assumption that all individuals are the same and, therefore, that uniform schooling reaches all individuals equally and equitably. But we obviously look different from one another and have different personalities and temperaments. Most important, we also have different kinds of minds.

(Gardner 1999, 150)

The distinction must be made between children having brains and children having minds. Children have more than just brains to fill with information.

As was evident through the literature review and findings, this study provided a basis for future investigation into the teaching methods and their efficacy for both boys' and girls' learning. From the culturally rich and site-specific data gathered, three research approaches have been identified to increase understanding of Italian teaching methods: observations of other Italian state educational institutions, inclusion of participant perspectives on teaching methods, and comparing cross-culturally, internationally the methods and results of other educational systems. By including these factors in future research endeavors, a more comprehensive evaluation of methods and effectiveness can be achieved.

In conclusion, it is the hope of this researcher that the thick description in the study revealed enough information that it will be generalizable to other situations locally or internationally and can help those who work in schools to understand and improve their practice. Finally, this researcher would simply like to recommend that Italian education becomes more accessible to ALL kinds of minds (male or female).

REFERENCES

- Abbott, T. (2001) *Social and Personality Development*. New York: Routledge
- Archer, E. and Peck, B. (1992) *The Teaching Profession in Europe*. Glasgow: Sales and Publications, Jordanhill College of Education
- Argyris, M. and Schon, D. (1974) *Theory in Practice. Increasing professional effectiveness*. San Francisco: Jossey-Bass
- Beane, J. (1990) *Affect in the Curriculum: Toward democracy, dignity, and diversity*. New York: Teachers College Press
- Blaxter, L., Hughes, C. and Tight, M. (1996) *How to Research*. Buckingham: Open University Press
- Bolam, R. (1999) "Educational administration, leadership and management: towards a research agenda," in T. Bush, L. Bell, R. Bolam, R. Glatter and P. Ribbins (eds), *Educational Management: Redefining Theory, Policy and Practice*. London: Paul Chapman
- Brechino, P and Younger, M. (2004) "Some unexpected results of a learning styles intervention?" Paper Presented BERA Conference, Manchester. [WWW] <http://www.educ.cam.ac.uk/research/projects/rba/Paper%20PB.pdf> (28 February 2009)
- Brown, P. and Lauder, H. (2001) *Capitalism and Social Progress: The future of society in a global economy*. Basingstoke: Palgrave
- Caine, R. and Caine, G. (1994) *Making Connections: Teaching and the Human Brain*. Menlo Park, CA: Addison-Wesley Publications
- Capelli, O. (2007) "Medicina, le donne si laureano prima e meglio: a parlare." *Vita di Donna*. [WWW] <http://www.vitadidonna.it/news/2007/09/medicina-le-donne-si-laureano-prima-e.html> (18 August 2008)
- Clark, E. (1997) *Designing and Implementing an Integrated Curriculum: A student-centered approach*. Brandon, VT: Holistic Education Press
- Connolly, P. (2004). *Boys and Schooling in the Early Years*. London: Routledge Falmer.
- Creswell, J. (2003) *Research Design: Qualitative, quantitative, and mixed methods approaches*, 2nd ed. Sage: Thousand Oaks

Denzin, N.K. & Lincoln, Y.S. (eds.) (2003) *The Landscape of Qualitative Research*. London: Sage Publications

Department for children, schools and families: Standards Site. "Foundation stage profile: Handbook. [WWW]
http://www.standards.dfes.gov.uk/primary/publications/foundation_stage/940451/ (16 August 2008)

Du Plessis, K. (2007) *And They Lived Happily Ever After: Literature and Research Exploring the Psychology of Intimate Relationships*. Morrisville, North Carolina: Lulu Enterprises

Eurybase. (2003) The Education System in Italy (2000/2001). [WWW]
<http://www.eurydice.org/Application/frameset.asp?country=IT&language> (1 April 2003)

Francis, B. (2000) *Boys, Girls and Achievement: Addressing the Classroom Issues*. London: Routledge Farmer

Francis, Babette. (2000) "Is Gender a Social Construct or a Biological Imperative." *Family Futures: Issues in Research and Policy*, 7th Australian Institute of Family Studies Conference. Sydney, 24-26 July

Gardner, H. (1984) *Frames of Mind: the theory of multiple intelligences*. London: Heinemann

Gardner, H. (1999) *Intelligence Reframed: Multiple Intelligences for the 21st Century*. New York: Basic Books

Geertz, C. (1993) *The Interpretation of Culture*. London: Fontana Press.

Gloucestershire County Council. (2003) *Gender Issues in Primary Education: Boys will be Boys*. Gloucestershire LEA

Gomm, R, Hammersley, M. and Foster, P. (2000) *Case Study Method*. London: Sage Publications

Gough, N. (2002) 'Blank spots, blind spots, and methodological questions in postgraduate research'. Deakin University, Postgraduate Research Conference

Gough, S. (2003) 'International development education: managing change in Caribbean countries', in Wallace, M. and Poulson, L. (2003) *Learning to Read Critically in Educational Leadership and Management*. London: Sage Publications, pp. 170-193

Gurian, M. (2001) *Boys and Girls Learn Differently: A Guide for Teachers and Parents*. San Francisco, CA: Jossey Bass.

- Halpern, D. (2000) *Sex Differences in Cognitive Abilities*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Halsey, et al. (1997) *Educaiton: Culture, Economy, Society*. Oxford: Oxford University Press
- Hayden, M. and Thompson, J. (2001) *International Education: Principles and Practice*. London: Kogan Page
- Hirumi, A. (2002) “ Student-Centered, Technology-Rich Learning Environments (SCenTRLE): Operationalizing Constructivist Approaches to Teaching and Learning.” *Journal of Technology and Teacher Education*, 10(4): 497-537
- Holliday, A.R. (2002) *Doing and Writing Qualitative Research*. London: Sage
- Holliday, A., Hyde, M. & Kullman, J. (2004) *Inter-cultural Communication: An Advanced Resource Book*. London: Routledge
- Inglis, F. (2000) *Clifford Geertz: Culture, Custom and Ethics*. Cambridge: Polity Press
- James, C.R. and Jones, N. (accepted for publication 2007) “A case study of the mis-management of educational change: An interpretation from an affective standpoint.” *Journal of Educational Change*
- James, C., Connolly, M., Dunning, G. and Elliott, T. (2006) *How Very Effective Primary Schools Work*. London: Sage Publications
- James, C. and Connolly U. (2000) *Effective Change in Schools*. London: Routledge Falmer
- Knight, P. (2002) *Small-Scale Research*. London: Sage Publications
- La Repubblica.it (2008) “Matematica e inglese, boom debiti: Ma alla maturità 2008 più 100 e lode.” [WWW]
http://www.repubblica.it/2008/07/sezioni/scuola_e_universita/servizi/scuola-2008-due/debiti-maturita/debiti-maturita.html (18 August 2008)
- Lemonick, M. (1997) “The Mood Molecule.” *TIME*. 29 September 1997, 46
- Linden, D. (2007) *The Accidental Mind: How Brain Evolution Has Given Us Love, Memory, Dreams, and God*. Cambridge, MA: Belknap Press of Harvard University
- Marchbank, J. (2002) “The Lost Boys.” *Gender and Education*, 14:2, 199-202

- Martin, A.J. (2003) "Boys and Motivation." *The Australian Educational Researcher*, Vol. 30, No 3, Dec 2003
- McNiff, J. (1988) *Action Research: Principles and Practice*, London: Routledge
- Merton, R.K. (1936) "The Unanticipated Consequences of Purposive Social Action." *American Sociological Review*, 1 (6): 894-904
- Mignone, M. (1995) *Italy Today: A Country in Transition*. New York: Peter Lang Publishing
- Miller, R. (1990) *What Are Schools For? Holistic Education in American Culture*. Brandon, VT: Holistic Education Press
- Milton, E. (2003) "The Implications of Multiple Intelligences in the Primary Classroom." *Journal of the Cardiff School of Education*, Vol 2. [WWW] <http://www.uwic.ac.uk/eds/r&e/journal/journal%202%202003.pdf> (28 February 2009)
- Ministero dell'Istruzione dell'Università e della Ricerca. (2003) "Il Percorso dello Studente." [WWW] http://www.istruzione.it/mpi/progettoscuola/allegati/nuovi_ordin03.pdf (16 April 2003)
- Nash, J. (1997) "Fertile Minds." *TIME*. 10 February 1997, 50
- Noble, C. and Bradford, W. (2000) *Getting it right for boys ...and girls*. London: Routledge
- Norton, R. (2002) "Unintended Consequences." *The Library of Economics and Liberty: The Concise Encyclopedia of Economics*. [WWW] <http://econlib.org> (20 December 2007)
- OECD Programme for International Student Assessment (PISA). [WWW] http://www.pisa.oecd.org/pages/0,2987,en_32252351_32235731_1_1_1_1_1_00.html (14 March 2008)
- Papparella, D. and Rinofi, V. (2003) "Reform of School System adopted." *European Industrial Relations Observatory On-line*. [WWW] <http://www.eurofound.europa.eu/eiro/2003/04/feature/it0304106f.htm> (18 March 2008)
- Renold, E. (2001) "Learning the 'Hard' Way: boys, hegemonic masculinity and the negotiation of learner identities in the primary school." *British Journal of Sociology of Education*, 22:3, 369-385
- Ricci, L. (2008) "Matematica, cade il tabù donna." *Il Sole 24 Ore. Com* [WWW]

<http://www.ilsole24ore.com/art/SoleOnLine4/Italia/2008/07/matematica-cade-tabu-donna.shtml?uuid=49152018-5a21-11dd-8da0-e2756502ce23&DocRulesView=Libero> (18 August 2008)
Sass, E. (2008) American Educational History: A Hypertext Timeline.
[WWW] <http://.cloudnet.com/> (25 August 2008)

Shawe, S. and Hawes, T. (1998) *Effective Teaching in the Primary Classroom*. Leicester: The SERVICES Ltd

Skelton, C. (2001) *Schooling the Boys: Masculinities and primary education*. Buckingham: Open University Press

Sarantakos, S. (1998) *Social Research*, 2nd Ed., Basingstoke: Macmillan, pp. 31-58

Spradley, J.P. (1980) *Participant Observation*, London: Harcourt Brace Jovanovich College Publishers

Sverige, C. (2001) Italy's Right-Wing Government Unveils New Attacks on Workers. In: World Socialist Web Site [WWW]
<http://www.wsws.org/articles/2001/ital-s22.shtml> (1 April 2003)

Wallace, M. and Poulson, L. (2003) *Learning to Read Critically in Educational Leadership and Management*. London: Sage Publications

Wallace, M. and Hoyle, E. (2006) *Managing Change in Public Services*. Chapter 4: An ironic perspective on public service change. Oxford: Blackwell

Weaver-Hightower, M. (2003) "Crossing the Divide: bridging the disjunctures between theoretically oriented and practice-oriented literature about masculinity and boys at school." *Gender and Education*, 15:4, 407-423

West, P. (2002) *What is the matter with boys? Showing boys the way towards manhood*. Marrickville, Australia: Choice Books

Willingham, D. (2006) " 'Brain-based' Learning: More Fiction than Fact." American Educator, Fall 2006. [WWW] http://www.aft.org/pubs-reports/american_educator/issues/fall2006/cogsci.htm (28 February 2009)

Wilson, G. (2003) *Using the National Healthy School Standard to Raise Boys' Achievement*. Kirklees LEA. [WWW]
http://www.standards.dfes.gov.uk/genderandachievement/nhss_boys_achievement2.pdf?version=1 (28 March 2008)

Wilson, G. (2006) *Breaking through Barriers to Boys' Achievement: developing a caring masculinity*. London: Network Continuum Education

APPENDIX A: The Questionnaire

QUESTIONNAIRE FOR RESEARCH PROJECT: GENDER AND METHODS

COMPILED FOR CLASS

TEACHER

DATE

	BOYS	GIRLS
TOTAL NUMBER IN CLASS		
NUMBER OF NOTES IN DIARY FOR MISSING HOMEWORK		
NUMBER OF NOTES IN DIARY FOR POOR BEHAVIOR		
NUMBER OF STUDENTS FAILED IN GROUP		
NUMBER OF STUDENTS FAILED DURING CAREER OF _____ YEARS		

- 1. WHAT IS YOUR MAIN GOAL(S) WHEN TEACHING THE CHILDREN?**
- 2. WHAT METHODS DO YOU USE WHEN TEACHING YOUR SUBJECT?**
- 3. ARE SOME METHODS MORE EFFECTIVE THAN OTHERS?**
- 4. ARE SOME METHODS MORE EFFECTIVE WITH GIRLS?**
- 5. ARE SOME METHODS MORE EFFECTIVE WITH BOYS?**
- 6. DO MOST GIRLS ACHIEVE TO THEIR POTENTIAL?**
- 7. DO MOST BOYS ACHIEVE TO THEIR POTENTIAL?**
- 8. HAVE YOU SEEN A CHANGE OVER THE LAST FIVE YEARS IN THE WAY BOYS AND GIRLS LEARN?**
- 9. HAVE YOU SEEN A CHANGE OVER THE LAST FIVE YEARS IN THE MOTIVATION OF BOYS AND GIRLS TO LEARN?**
- 10. HAVE YOU SEEN A CHANGE OVER THE LAST FIVE YEARS IN THE ACHIEVEMENT OF BOYS AND GIRLS?**

APPENDIX B: The Data Form

DATA FOR RESEARCH PROJECT: GENDER AND METHODS

CHART OF GRADES FOR CLASS _____

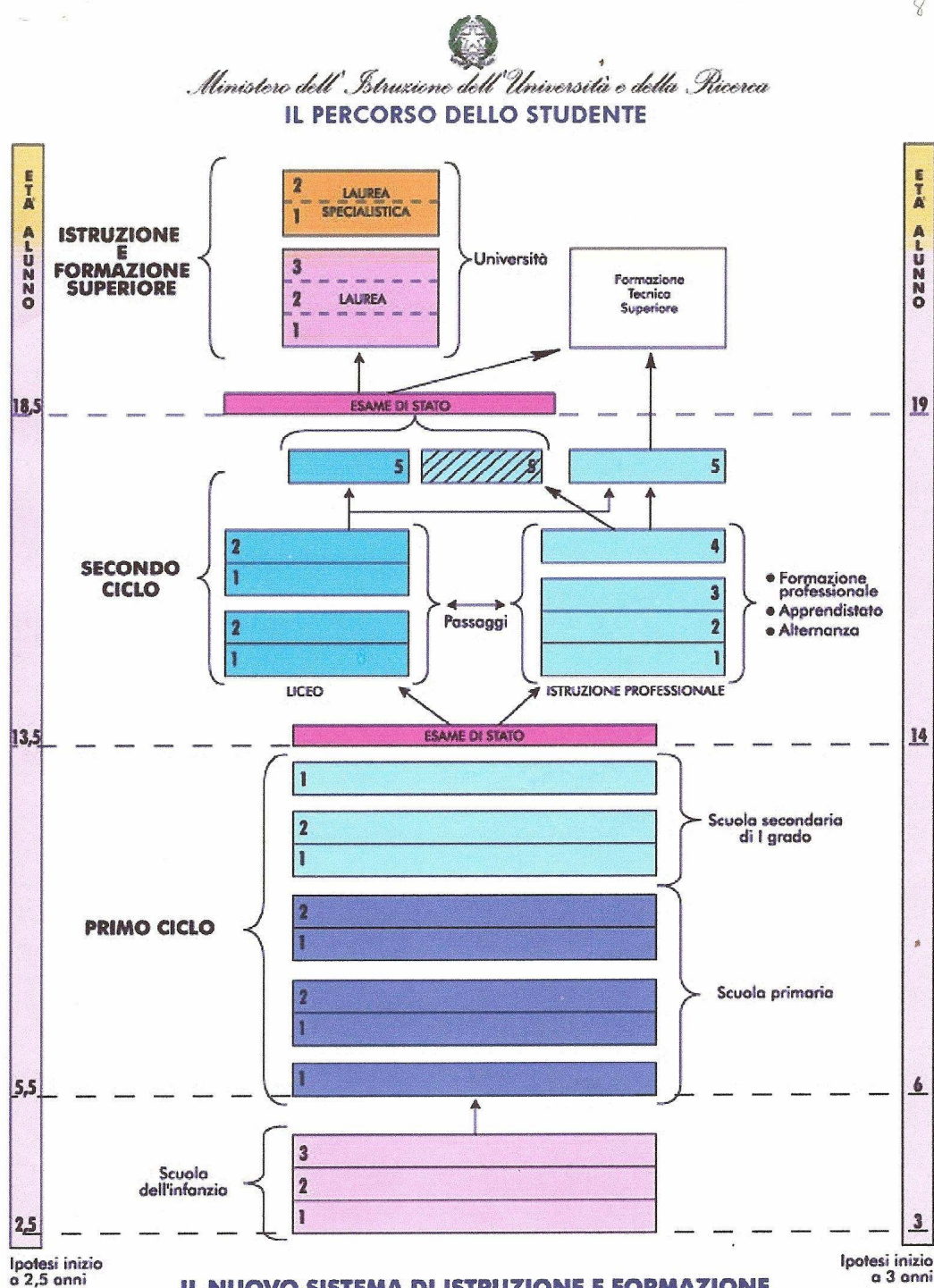
TEACHER _____

DATE _____

TOTAL NUMBER IN CLASS **BOYS** _____ **GIRLS** _____

	OUTSTANDING		VERY GOOD		GOOD		SUFFICIENT		INSUFF.	
	B	G	B	G	B	G	B	G	B	G
ITALIAN										
ENGLISH										
HISTORY										
GEOGRAPHY										
MATHS										
SCIENCE										
COMPUTERS										
MUSIC										
ART										
PE										
COHABITATION										
BEHAVIOR										
OTHER										
OTHER										

APPENDIX C: The Moratti Reforms



APPENDIX D: Sample of a boy's newspaper exercise

22-4-08

La prima pagina dei quantitativi

La prima pagina è come "la vetrina" del giornale in cui vengono presentate in **contesi** le notizie più importanti.

Vediamo come viene organizzato lo spazio della prima pagina.

<p>FRANCETTE autanciet redistribuit</p>	<p>TESTATA Chitolo del giornale della provincia italiana</p>		<p>FRANCETTE</p>
<p>FRANCETTE annunciano un articolo</p>	<p>FRANCETTE</p>	<p>FRANCETTE</p>	<p>ARTICOLO SPALLA Presenta un fatto che si va le metter in rilievo</p>
<p>ARTICOLO DI FUNDO</p>	<p>ARTICOLO DI APERTURA Presenta la notizia più importanti della giornata</p>		
<p>su aumentano opinioni fatto del giorno</p>	<p>ARTICOLO DI articolo disposto a metà pagina</p>		<p>ARTICOLO</p>
	<p>ARTICOLO BASSO Articolo disposto in basso</p>		

periodo, può essere settimanale, quindicinale, mensile, trimestrale ecc.

Ci sono riviste di attualità che contengono articoli in apprez-
fondamente di politica, economia, cronaca, sport, spettacolo, cultura,
ma che ~~esse~~ ~~non~~ si rivolgono a tutti e sono sempre arricchite
da fotografie e illustrazioni.

Ci sono inoltre riviste settoriali, che si rivolgono a un pubblico tradizionale.

con espressione inglese, mass-media, hanno come caratteristica fondamentale di rivolgersi a tutti, di andare incontro agli interessi del maggior numero di persone, soprattutto nel campo dell'informazione.

Ora impareremo a conoscere due di questi strumenti di informazione: il giornale o quotidiano e la rivista.

il quotidiano

Il quotidiano è, dopo la televisione, il mezzo di comunicazione e di informazione ^{più} diffuso.

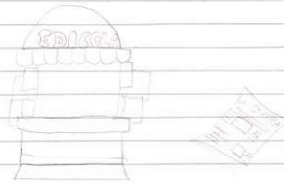
Esce ogni giorno e fornisce notizie sui fatti di politica, di economia, di attualità e di altra natura accaduti il giorno precedente.

la rivista

La rivista è una pubblicazione non quotidiana, stampata a intervalli regolari e per questo detta anche

Rambiano 10 aprile 2008

IL QUOTIDIANO



I mass-media

Un tempo le notizie venivano trasmesse con il parola parola da mercanti e pellegrini e si diffondevano molto lentamente.

Nel Seicento sono arrivati i giornali e nel Novecento la radio e la televisione ed infine internet, che ci informano immediatamente di ciò che accade in qualsiasi parte del mondo.

Questi mezzi, detti mezzi di comunicazione di massa o

APPENDIX E: Sample of a girl's math exercise

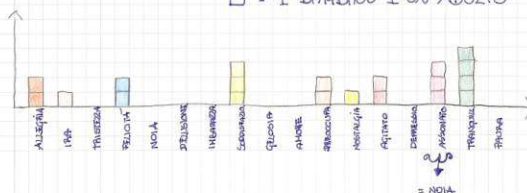
Giovedì 24 Aprile 2008

LE NOSTRE EMOZIONI!

VENERDÌ 18 APRILE È VENUTA LA DOTT.SA. CRIVIERI
E ABBIAMO GIOCATO - LAVORATO SULLE NOSTRE
EMOZIONI. DIVISI A GRUPPI, POI, ABBIAMO COSTRUITO
1 PERSONAGGIO DI FANTASIA DESCRIVENDO TUTTE LE
DUE EMOZIONI.

ORA TRAMITE UN GRAFICO RAPPRESENTIAMO LE
NOSTRE EMOZIONI.

□ = 1 BAMBINO E UN ADULTO



Ripassiamo:

× RICONFERMA LA %

O TRASFORMI LA FRAZIONE IN UNA EQUIVALENTE CON
DENOMINATORE 100

oppure:

DIVIDI IL NUMERATORE PER IL DENOMINATORE ED OTTINI
UN NUMERO DECIMALE, E POI LO TRASFORMI IN FRAZIONE

PERCIO' AVRO':

ALLEGRIA

PREOCCUPAZIONE

FELICITÀ

AGITATO

$$\frac{2}{20} \text{ sarà } 2:20 = 0,10 \text{ è un numero decimale } \rightarrow \frac{10}{100} = 10 \times 100$$

NOIA

SODDISFAZIONE

$$\frac{3}{20} \text{ sarà } 3:20 = 0,15 \text{ è un n° decimale } \rightarrow \frac{15}{100} \text{ è trasformato } 15\%$$

TRANQUILLITÀ

$$\frac{4}{20} \text{ sarà } 4:20 = 0,20 \text{ è un n° dec. } \rightarrow \frac{20}{100} = 20\%$$

RIASSEMBLAMENTO AVREMO:

5% → ^{1/20}
NOSTALGIA

10% →
ALLEGRIA
FELICITA'
PREOCCUPAZIONE
AGITATO

15% →
NOIA
SODDISFAZIONE

20% → TRANQUILLITA'

$$\text{FELICITA'} = \frac{2 \times 5 = 10}{20 \times 5 = 100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$$

$$\text{NOIA} : \frac{3 \times 5 = 15}{20 \times 5 = 100} \rightarrow 15 \text{ su } 100 \text{ cioè } 15\%$$

$$\text{SODDISFAZIONE} : \frac{3 \times 5 = 15}{20 \times 5 = 100} \rightarrow 15 \text{ su } 100 \text{ cioè } 15\%$$

$$\text{PREOCCUPAZIONE} : \frac{2 \times 5 = 10}{20 \times 5 = 100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$$

$$\text{TRANQUILLITA'} : \frac{4 \times 5 = 20}{20 \times 5 = 100} \rightarrow 20 \text{ su } 100 \text{ cioè } 20\%$$

$$\text{NOSTALGIA} : \frac{1 \times 5 = 5}{20 \times 5 = 100} \rightarrow 5 \text{ su } 100 \text{ cioè } 5\%$$

$$\text{AGITATO} : \frac{2 \times 5 = 10}{20 \times 5 = 100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$$

LE NOSTRE OSSERVAZIONI:

- NON È SEMPLICE DIRE OPA LA PROPRIA EMOZIONE
- NON SEMPRE LE NOSTRE EMOZIONI SONO UGUALI NELLO STESSO MOMENTO
- SI PUÒ NOTARE CHE PIÙ PERSONE HANNO ESPRESSO LA STESSA EMOZIONE
- ALCUNE EMOZIONI NON SONO STATE SCELTE.

LA NOSTRA INDAGINE HA COINVOLTO 20 PERSONE.

ORA TRASFORMIAMO QUESTI DATI CON DELLE FRAZIONI EQUIVALENTI PER POI RICAVALRE LA PERCENTUALE (%). FRAZ. EQUIV.

$$\text{ALLEGRIA: } \frac{2 \times 5 = 10}{20 \times 5 = 100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$$

$$\text{IRA: } \frac{1 \times 5 = 5}{20 \times 5 = 100} \rightarrow 5 \text{ su } 100 \text{ cioè } 5\%$$

$$\left. \begin{array}{l} \text{IRA} \\ \text{NOSTALGIA} \end{array} \right\} = \frac{1}{20} \text{ sarà } 1:20 = 0,05 \text{ e m.m. N°} \\ \text{decimale } \rightarrow \frac{5}{100} = 5\%$$

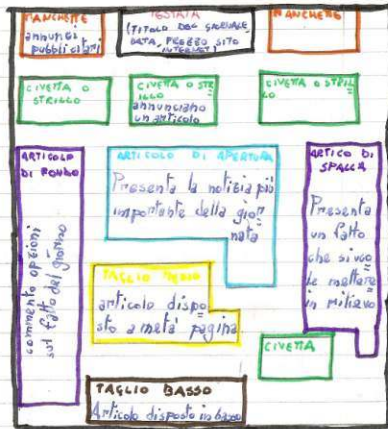
ov. 1N.

APPENDIX F: Sample of a boy's newspaper exercise

22-4-08

La prima pagina dei quotidiani

La prima pagina è come la "vetrina" del giornale in cui vengono presentati in sintesi le notizie più importanti. Vediamo come viene organizzato lo spazio della prima pagina.



è di altra natura accadute il giorno precedente

LA RIVISTA

La rivista è una pubblicazione non quotidiana, stampata a intervalli regolari e per questo detta anche periodico; può essere settimanale, quindicinale, mensile, bimestrale...

Le sono riviste di attualità che contengono articoli con approfondimenti di politica, economia, cucina, sport, spettacoli, cultura, ma esse si rivolgono a tutti e sono sempre arricchite da fotografie e illustrazioni.

Le sono inoltre riviste settoriali, che si rivolgono a un pubblico particolare.

Questi mezzi detti mezzi di comunicazione di massa e, con espressione inglese, mass-media, hanno come caratteristica fondamentale di rivolgersi a tutti, di andare incontro agli interessi del maggiore numero di persone, soprattutto nel campo dell'informazione.

Ora impareremo a conoscere due di questi strumenti di informazione: il giornale o quotidiano e la rivista.

IL QUOTIDIANO

Il quotidiano è, dopo la televisione, il mezzo di comunicazione e di informazione più diffuso.

Esce ogni giorno e fornisce notizie sui fatti di politica, di economia, di attualità.

16/4/08

IL QUOTIDIANO



I mass-media

Un tempo le notizie venivano trasmesse con il passaparola da mercanti e pellegrini e si diffondevano molto lentamente.

Nel '600 sono arrivati i giornali e nel '900 la radio e la televisione ed infine internet che ci informano immediatamente di ciò che accade in qualsiasi parte del mondo.

APPENDIX G: Sample of a girl's math exercise

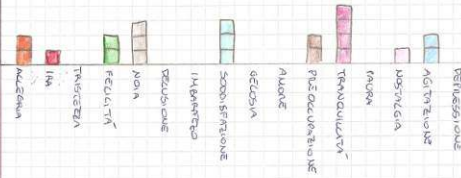
Giovedì 24 Aprile 2008

LE NOSTRE EMOTIONI!

Venerdì 18 Aprile è venuto le dottoressa Olivieri e abbiamo giocato - facendo tutte nostre emozioni.

Divisi a gruppi, poi, abbiamo costruito un personaggio di fantasia descrivendo tutte le sue emozioni.

Ora tramite un grafico rappresentiamo le nostre emozioni.



□ = 1 persona

le nostre emozioni:

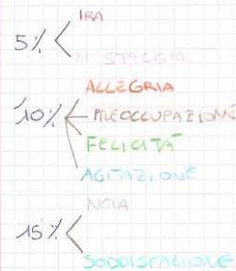
non è semplice dire ora le proprie emozioni,

$$\text{TRANQUILLITÀ} = \frac{4 \times 5}{20 \times 5} = \frac{20}{100} \rightarrow 20 \text{ su } 100 \text{ cioè } 20\%$$

$$\text{TRISTIZIA} = \frac{1 \times 5}{20 \times 5} = \frac{5}{100} \rightarrow 5 \text{ su } 100 \text{ cioè } 5\%$$

$$\text{AGITAZIONE} = \frac{2 \times 5}{20 \times 5} = \frac{10}{100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$$

Riassumendo:



20% - TRANQUILLITÀ

ESERCIZIO

% FRAZIONE DA %

o trasformiamo la frazione in una equivalente con denominatore 100.

- non sempre le nostre emozioni sono uguali nello stesso momento
- ci può essere che più persone hanno espresso la stessa emozione
- alcune emozioni non sono state scelte.

Le nostre indagini ha coinvolto 20 persone.

Ora trasformiamo questi dati con delle frazioni equivalenti.

ti per poi ricavare la percentuale (%).

ALLEGRIA $\frac{2}{20} \times 5 = \frac{10}{100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$

IRA $\frac{1}{20} \times 5 = \frac{5}{100} \rightarrow 5 \text{ su } 100 \text{ cioè } 5\%$

FELICITÀ $\frac{2}{20} \times 5 = \frac{10}{100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$

NOIA $\frac{3}{20} \times 5 = \frac{15}{100} \rightarrow 15 \text{ su } 100 \text{ cioè } 15\%$

SODDISFAZIONE $\frac{3}{20} \times 5 = \frac{15}{100} \rightarrow 15 \text{ su } 100 \text{ cioè } 15\%$

PREOCCUPAZIONE $\frac{2}{20} \times 5 = \frac{10}{100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$

Venerdì 24 Aprile 2008

LE NOSTRE EMOZIONI!

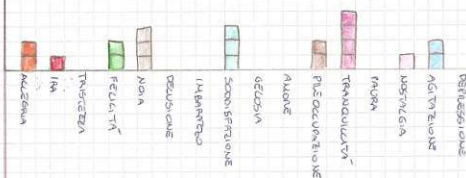
Venerdì 18 Aprile è venuto il dottore Olivieri e

abbiamo giocato-lucido sulle nostre emozioni.

Divisi a gruppi, poi, abbiamo costruito un personaggio

di fantasia descrivendo tutte le sue emozioni.

Ora tramite un grafico rappresentiamo le nostre emozioni.

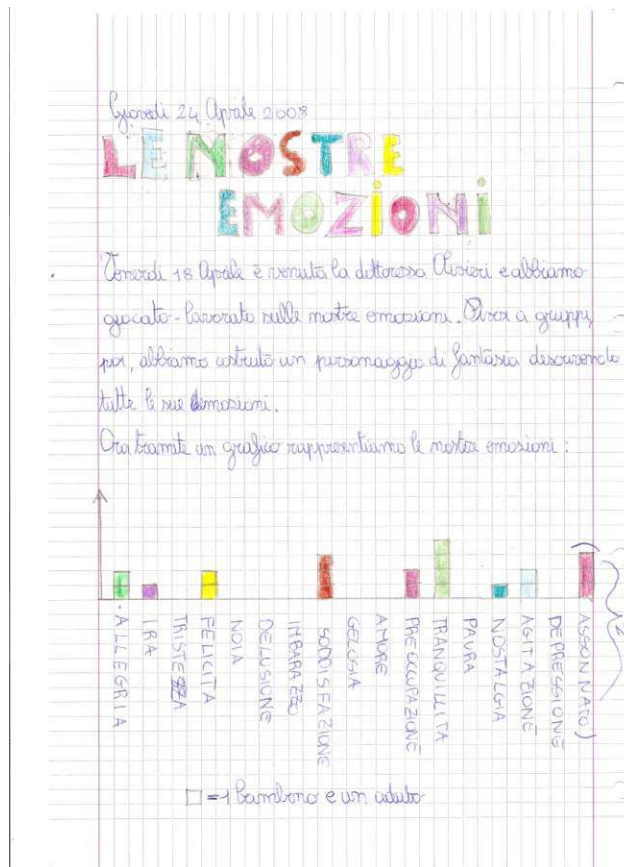


□ = 1 persona

le nostre emozioni.

- non è semplice dire ora la propria emozione,

APPENDIX H: Sample of a boy's math exercise



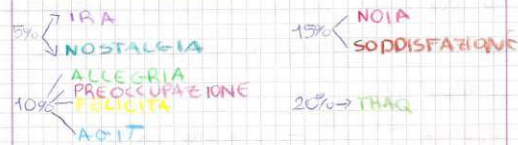
cioè

TRACQUILLITÀ: $\frac{4 \times 5}{20 \times 5} = \frac{20}{100} \rightarrow 20$ su 100 cioè 20%

NOSTALGIA: $\frac{1 \times 5}{20 \times 5} = \frac{5}{100} \rightarrow 5$ su 100 cioè 5%

AGITAZIONE: $\frac{2 \times 5}{20 \times 5} = \frac{10}{100} \rightarrow 10$ su 100 cioè 10%

Quattro emozioni abbiamo:



Oppure si può

X RILAVARE la %

o trasformare la frazione in una equivalente con denominatore 100

oppure

dividi il numeratore per il denominatore ed ottieni un numero decimale e poi lo trasformi in un numero decimale

IRA } $\frac{1}{20}$ nota 1 : 20 = 0,05 e un numero $\frac{5}{100} = 5\%$

ALLEGRIA } $\frac{2}{20}$ nota 2 : 20 = 0,10 e un numero $\frac{10}{100} = 10\%$

NOIA } $\frac{3}{20}$ nota 3 : 20 = 0,15 e un numero $\frac{15}{100} = 15\%$

SODDISFAZIONE } $\frac{4}{20}$ nota 4 : 20 = 0,20 e un numero $\frac{20}{100} = 20\%$

Le molte emozioni:

- non è semplice dire cosa la propria emozione
- non sempre le molte emozioni sono uguali nello stesso momento
- la più matura dei più persone hanno: spesso la stessa emozione
- alcune emozioni non sono state scritte

La matematica ha un modo di pensare. Ora trasformiamo questi dati in frazioni equivalenti per poi ricavare la percentuale (%).

ALLEGRIA: $\frac{2 \times 5}{20 \times 5} = \frac{10}{100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$

IRA: $\frac{1 \times 5}{20 \times 5} = \frac{5}{100} \rightarrow 5 \text{ su } 100 \text{ cioè } 5\%$

FELICITÀ: $\frac{2 \times 5}{20 \times 5} = \frac{10}{100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$

NOIA: $\frac{3 \times 5}{20 \times 5} = \frac{15}{100} \rightarrow 15 \text{ su } 100 \text{ cioè } 15\%$

SODDISFAZIONE: $\frac{3 \times 5}{20 \times 5} = \frac{15}{100} \rightarrow 15 \text{ su } 100 \text{ cioè } 15\%$

PREOCCUPAZIONE: $\frac{2 \times 5}{20 \times 5} = \frac{10}{100} \rightarrow 10 \text{ su } 100 \text{ cioè } 10\%$

APPENDIX I: Sample of a girl's newspaper exercise

Bombardier, 22 April 2008

La prima pagina dei quotidiani

La prima pagina è come la "retina" del giornale in cui vengono presentate in **SINTESI** le **NOTIZIE PIÙ IMPORTANTI**. Vediamo come viene organizzato lo **SPAZIO** della prima pagina.



LA RIVISTA

La rivista è una pubblicazione non quotidiana stampata a intervalli regolari e per questo detta anche periodica; può essere settimanale, quindicinale, mensile, bimestrale, trimestrale ecc....

li sono più di ottanta che contengono articoli con approfondimenti di politica, economia, cucina, sport, spettacoli, cultura, moda; esse si rivolgono a tutti e sono sempre arricchite da fotografie e illustrazioni.

li sono inoltre riviste **settoriali**, che si rivolgono a un pubblico tradizionale.

massa, con espressione inglese, mass-media.

hanno come caratteristica fondamentale di rivolgersi a tutti di andare incontro agli interessi del maggior numero di persone, soprattutto nel campo dell'informazione.

Ora impareremo a conoscere due di questi strumenti di informazione: il giornale o quotidiano e la rivista.

IL QUOTIDIANO

Il quotidiano è, dopo la televisione, il mezzo di comunicazione e di informazione più diffuso.

Esce ogni giorno e fornisce notizie sui fatti di politica, di economia, di attualità e di altra natura accaduti il giorno precedente.

Ravenna, 16 aprile 2008

IL QUOTIDIANO



I mass-media

Un tempo le notizie venivano trasmesse con il passaparola da mercanti e pellegrini e si diffondevano molto lentamente.

Nel '600 sono nati i giornali e nel '900 la radio e la televisione ed infine internet, che ci informano immediatamente di ciò che accade in qualsiasi parte del mondo.

Questi mezzi detti mezzi di comunicazione di